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An account of the malignant Epidemic which has lately prevailed in the Southern States. By DR. J. NORCOM, of Edenton, North Carolina.

[Communicated by Dr. D. Hosack of New York.]

SOME time in the month of October, 1814, there appeared in this neighbourhood a fever of an extraordinary type. The first cases of it which fell under my observation, took place on Salmon creek, about two miles from the mouth of Chowan river, and ten miles from this town. After affecting several persons with different degrees of force and severity, it gradually subsided and disappeared. During its continuance, however, a remarkable circumstance occurred: the hooping cough, which prevailed in the same family, exhibited a character of a similar description, and yielded only to the influence of the same remedies that proved successful in its cure. In the month of December, as I have been informed by a respectable physician in this place, the disease occurred on Chowan river, about fifteen miles above us. In January it appeared on Salmon creek again; and, from the cases which have now and

then been seen in different parts of the country in this vicinity, it may be said to have existed *sporadically* throughout the winter.

Towards the conclusion of the year past, the same disease made its appearance in Perquimans, under a much more *malign aspect;* and has continued to prevail since with great mortality in the country contiguous. It has lately also commenced its ravages in Gates, where, I am told, it threatens to be considerably destructive. The prevalent opinion with respect to its origin in Perquimans, is, that it was first brought there from the camps at Norfolk, and was afterwards propagated by contagion. With this opinion, which, *if facts are maturely considered*, is probably as hard to be proved as refuted, it is not my intention to interfere; being fully aware of the difficulties that have ever perplexed the philosophical enquirer, on the subjects of contagion and epidemics. A candid and dispassionate investigation of the history, nature and progress of this disease (*which those who decide so hastily are the last to undertake*) is the only method by which the numerous errors and absurdities that exist on the subject, can be banished from the popular mind.

The object I have in view in trespassing upon the attention of the public, and exposing myself to the criticisms and animadversions of the learned, is to describe the disease as it has existed in my sphere of practice; and, for the benefit of those who are less (not those who are better) informed.than myself, to detail the remedies which have proved advantageous and tended to the restoration of the sick.

The complaint unquestionably depends upon an epidemical or extensively morbid constitution of the air, which has been gradually acquiring force *in the neighbouring country*, since the middle of autumn: the same in all probability that has given rise to the desolating malady which has raged with such fatal malignity in many parts of Maryland and Virginia; the same which existed in America in 1775, in 1789-90, and 91, and in the winter of 1807-8; and probably the same which, in the course of the sixteenth, seventeenth and eighteenth centuries,

proved so memorably mortal in various parts of Europe and Asia. Catarrhus suffocativus and gangrenosus, angina putrida, pneumonia typhodes, influenza, and phrenitis maligna, are the technical appellations by which it has been designated in the writings of physicians. That the vicissitudes of the weather and the sensible qualities of the atmosphere, although they may have aggravated the complaint, multiplied its victims, and tended to prolong its duration, have had but little share in the production of it, is sufficiently demonstrated by the date of its occurrence, and the *uniformity of character* it has maintained throughout the different stages of its progress. To predict or to look for the termination of it in any imaginary temperature depending upon a revolution of the seasons, is, in my estimation, weak and unphilosophical! Like the epidemic of 1789, 90 and 91, and that of 1807, 8, which pervaded almost the whole of the United States, this disease appears in a variety of shapes.—Sometimes it exhibits no more than the obvious symptoms of a common catarrh; sometimes it attacks with most of the symptoms of pneumonia; often it affects the throat in the form of quinsy; and in many cases it has appeared with an affection of the head so violent, as to resemble, in no small degree, a phrenitis or inflammation of the brain. Yet in all the various forms which it has assumed, I have found it to preserve an extraordinary sameness or similitude of character. The fever attending it has *certainly*, in a very large majority of cases, been a species of typhus, as will more clearly appear in the course of the succeeding narrative and description. At all events, I feel very confident that few cases have occurred in which the antiphlogistic plan of treatment has been for any time persisted in without manifest injury. It may be confidently asserted, on the contrary, that no remedies, except those which are calculated to remove debility and to counteract the evils incident to a typhous condition, have ever been decidedly and ultimately beneficial.

Whatever form the disease assumes, it generally begins with a chilly fit, succeeded by alternate sensations of heat and

cold, and accompanied with a sense of extreme lassitude and debility. The chilliness in some has continued for a day or two; and in others has not gone off entirely until the disease gave way. In a few cases of excessive malignity the coldness has not been removed until the scene was closed. One case of this kind happened under my own immediate observation, in which the patient was hurried off in about twenty-six hours. During the coldness which ushers in the complaint, there is often a pain in the head, attended with considerable nausea or vomiting: the vomiting, I have remarked, was most troublesome when the head has been most painfully affected. The matter discharged by vomiting is sometimes bile; sometimes a viscid phlegm only, mixed with the patient's drink or the common contents of the stomach. I have not considered the vomiting and occasional bilious discharges that take place in this fever, as affording any evidence of hepatic affection: it has seldom been more lasting or severe in the cases that have engaged my notice, than the vomiting that occurs in nephritis, in inflammation of the uterus, in the ague of an intermittent, or in the commencement of many inflammations in which the liver takes no share or concern. May it not rather be regarded as a sympathetic symptom, produced by the impression of the complaint on the brain, or depending upon the coldness and constriction of the cutaneous surface so frequently attending?—A diarrhœa now and then attends and is generally unfavourable. If the disease makes its first attack in the throat, it sometimes descends into the chest in the course of a day or two, producing a suffocating cough and breathing: when the pain leaves the throat and fixes itself in the breast about the fourth day, death very soon follows; when the breast is the seat of the disease the patient feels a pain in some part of the thorax; sometimes in the right, sometimes in the left side, but oftener about the centre of the sternum. The pain is seldom very acute, often so inconsiderable as not to be constantly felt or observed. In this pleuritic form a cough usually attends which fatigues without relieving; and, in violent cases,

seems to have little effect, except that of increasing the shortness and anxiety of breathing, which incessantly aggravate the sufferings of the patient. A delirium has been less frequent in this than in any other disease of equal violence which I have ever seen. In weak and relaxed constitutions there is often a large effusion of mucus in the bronchiæ, which gives rise to a loose cough; and, as the disease progresses and respiration becomes more embarrassed, creates a troublesome rattling in the throat for many hours before death. In constitutions of more vigour and firmness, the cough is less humid, sometimes dry and hoarse: the greater the exertion and fatigue attending the cough in general the greater is the danger. The disease in the throat is for the most part attended, particularly when it is violent, with considerable swelling on one or both sides of the neck externally, of an œdematous hardness with an erysipelatous surface. When this swelling descends to the chest and exhibits a livid colour, the greatest danger may be apprehended. The throat internally is more or less tumefied and inflamed: but the lining membrane, instead of a florid or crimson colour, discovers a clay or umbre-coloured redness with little ulceration or pain. Aphthous spots or pimples on the fauces I have occasionally seen; but small, dry, and darkish excoriations of the membrane have been by far more frequent. The internal swelling of the throat has rarely been alarming in any of the cases which it has been my lot to witness; never so excessive as to threaten suffocation. The inflammation of the throat in cases of a threatening complexion is probably seldom glandular; for it scarcely ever terminates in suppuration. When the head is chiefly affected the swelling in the face is sometimes so great as to close one or both of the eyes in a few hours. In a large number of cases the tongue is moist and of a whiteness inclining to a leaden or yellow colour: near the root of it the colour seems gradually to become yellower. In some instances it is dry and brown, and in others assumes a dark or livid appearance. The diversified forms of this disease have presented a corresponding diversity in the pulse. In

cases affecting the throat and breast the pulse is often quick, full and throbbing or convulsive, without hardness or tension; sometimes it is smaller and inclined to hardness with a thread of tension, but yielding readily to the gentlest pressure; at other times, particularly as the complaint advances to a fatal issue, as the volume of the artery begins to diminish, the pulse intermits and continues to beat irregularly until the patient expires. In cases affecting the head with pain in the frontal and maxillary sinuses, it is frequent, quick and irritated, though always weak; where the head suffers more deeply it is quick, weak and trembling or undulating, often conveying to the mind the idea of a fluid projected through a lifeless tube and depending for its motion *altogether* upon a distant impulse: wherever this last kind of pulse has occurred, there has generally existed an obstinate coldness in the extremities and surface of the body, with cutis anserina, shivering and sighing. In many of the more manageable forms of the disease the pulse is oftentimes so nearly natural, that, to an inattentive observer, its deviation from a healthy state would hardly be taken notice of; but upon more particular examination it will be found quite yielding and compressible. Another remarkable peculiarity of the pulse which I have once or twice observed, was a sort of frequency in which no interval between the strokes could be discerned: the artery here seemed to be constantly contracting, so that, before one contraction was completed, it might be perceived that another had begun. This confused or tangled action of the pulse, in one case which I saw, was attended with great giddiness and dimness of sight, distraction and alienation of mind and involuntary discharges, and death dispatched the sufferer in less than forty-eight hours. *Respiration* has been very generally affected in all the most malignant forms of this disease, and the degree of danger has appeared to be greatly influenced by the greater or less derangement of this important function. In the worst cases, the breathing has been extremely hurried, anxious, and imperfect, the thorax never appearing to undergo a full and

satisfactory expansion. It is probably owing to this partial respiration, this spasm, or paralysis of the respiratory organs, that some speculative physicians have ascribed the disease to a deficiency of oxygen in the atmosphere; a thing, I conceive, incapable of proof and altogether unnecessary in furnishing a correct explanation of its morbid phenomena. The same kind of breathing is common in cases of pneumonia notha, in which a phlogistication of the atmosphere has never been suspected; and the appearances which depend upon it are equally common in that complaint! Whether the same cause exists in both cases to give rise to this formidable and tormenting state of respiration, may reasonably be questioned; but no doubt can be entertained, *in either case*, that the livid appearance of the nails and extremities, and the continued disposition to coldness on the surface of the body, depend upon a deficiency of oxygen in the blood—owing, not so much to any change in the constitution of the atmosphere, as to a want of power in the lungs to disengage its vital principle and to apply it to the purposes of the circulation!—Respiration, in the milder grades of the complaint, though seldom so seriously affected as to be laborious or distressing, is always quicker than natural, sometimes irregular, and often suspirious. In still milder cases, the breathing, (as well as the pulse and appetite) continues in a regular and natural condition: in these latter cases the disease is usually confined to the throat and head, or to the head and eyes, and appears to depend upon a local and limited operation of the noxious agency to which it owes its existence. The skin, whether hot or cold, is generally dry in the beginning; about the termination of the disease, according to the event, there is either an universal gentle sweat, or a more copious perspiration confined to the head, neck, and trunk of the body. The urine is usually natural in its colour; in quantity, generally inclined to be excessive.

The duration of the disease is various and uncertain; it often proves fatal in the short period of twenty-four or forty-eight hours, and sometimes continues eight or nine days.

Generally speaking, its fatal termination is about the fourth or fifth day. The patient almost always dies with the symptoms of pneumonia notha.

The causes that have given rise to a predisposition to the disease, and have been principally instrumental in its production, are excessive fatigue, great and long continued exposure to cold, violent exercise, sitting up at night, irregularities of living and intemperance of every kind, *more especially intoxication:* in short, every thing which has a tendency either *directly* or *indirectly* to *induce debility* or to *weaken the vital powers.* The persons who have suffered most from the influence of this terrible scourge, have been the aged and the infirm, such as have been previously reduced by lingering and chronic affections, the indolent, the dissipated and the poor. Among this last description of people, who have been exposed to innumerable privations and hardships in the course of the present inclement and afflicting season, its devastations have been cruel and irresistible. Hard drinkers have acted a conspicuous part in this melancholy drama. The young and vigorous, whose habits have been regular, if their constitutions had not been previously impaired, have either had the disease lighter, or escaped it entirely. Healthy children can hardly be enumerated among its victims.

In the treatment of the disease much may be accomplished by due and seasonable attention to its symptoms. All the milder forms of it, in which I have seldom failed to observe the most manifest indications of a typhous state, have invariably yielded to anodyne, stimulant and tonic medicines, as they are generally used in regular practice; many of the severer cases have ended favourably under the same treatment accommodated to the greater severity and urgency of the symptoms: but in cases of the greatest violence, the malignity and rapid progress of the complaint have been such as to baffle the most skilful exertions and to defy the most active opposition. Happily for the community the number of these alarming cases has not been very great: not greater perhaps than

one in nine or ten of those that have been confined; or, if all the slighter affections of the head, throat and breast which appear to be derived from the same source and to partake of the prevailing typhous character are taken into the account, not more than three or four in an hundred. Of those that have been most dangerously affected perhaps not more than three in twenty have survived.

When I have been called upon to prescribe for a patient labouring under the disease, my first attention has been directed to the state of the pulse and respiration, and my first care has been to restore warmth to the system. When I have found the pulse not to exceed 100 or 108 strokes in a minute, regular in its vibrations, and not very weak, after composing *with an opiate* any inordinate commotion that happened to exist in the stomach or alimentary canal, (which I have seldom thought it expedient to encourage,) I have ordered from half a drachm to a drachm of a mixture of volatile aromatic spirit and paregoric elixir every two or three hours, with a cup of warm wine whey or strong snake-root tea between the doses; and in cases appearing to indicate the necessity of stronger stimuli, I have directed toddy to be used as constant drink. In a day or two, if the pulse did not become stronger and less frequent, the bark was added, with an additional quantity of wine and brandy. The bark, with camphor and the most powerful stimulants, have in many cases been given with good effects from the first attack of the disease. Under the use of these remedies, with the occasional use of anodynes and the judicious administration of nutriment, the patient soon began to mend, and finally recovered. Instead of the volatile spirit and paregoric, a combination of camphor with the volatile sal ammoniac, in pills, was sometimes given with the same beneficial result. In cases of the disease attended with swelling and inflammation of the throat, not evincing a very malignant temper, a strong volatile liniment with fomentations of hot vinegar and spirit, have been serviceable: blistering added to these has seldom failed, when accompanied with corresponding general

remedies, to produce the happiest effects. The same external applications and the same constitutional treatment have been equally successful in cases affecting the breast; provided the breathing of the patient was not convulsive and laborious, a circumstance always imminently dangerous and mostly fatal. Indeed, I cannot say, nor can I learn, that a single cure has been performed, in which that particular state of breathing so characteristic of this form of the complaint has been long established. Opium and the volatile alkali with wine or brandy, plentifully administered, have appeared in such cases to give the only relief.

In addition to the remedies that have been already mentioned, the warm bath and a variety of warm applications, have been frequently and extensively employed; and, in the first of the disease, when it existed in the head with swelling of the face and eyes, and superficial coldness not depending on an imperfect or defective action of the lungs, these remedies have certainly been eminently useful; but in many cases, where the symptoms of chilliness were the effect of a deficiency or absence of the vital heat of the blood, the application of artificial heat availed nothing: as soon as it was removed the coldness returned, and the disease went on in its work of destruction. Of the advantages of bleeding I have had but little experience; though I have reason to believe that, in the hands of some, this remedy has been mischievous. Whenever it has done good, it has been plainly indicated; in doubtful or difficult cases no one has ventured to say any thing in its favour. Purging, I believe, has been equally inefficacious; and the whole catalogue of diaphoretics and expectorants have been exhausted in vain. An easy expectoration and a natural diaphoresis are not to be brought about in this disease by such feeble auxiliaries, and whoever suffers himself to confide in them will have to lament his folly. They must be produced by medicines calculated to increase and support the vascular action and excitement of the system. In a state of typhous debility,

the *Peruvian bark*, *wine* and *brandy*, are the best sudorifics and expectorants in the Materia Medica.

A multitude of nostrums and prescriptions of domestic origin and reputation, have been used and recommended for the topical inflammation, swelling and pain, which attend the different forms of the complaint. Hops to the throat, yeast poultices, applications of pepper and salt to the neck, are among the most common of them: they all may possibly do service as local applications, but are in no respect preferable to the volatile liniment, mustard and blisters. Hops or yeast may be used internally with benefit, where much is not required; but it must appear evident to every one in the least conversant with the occasional force and malignity of this disease, that they are remedies on which no secure reliance can ever be placed.

The appearances of inflammation, which so constantly show themselves in this fever, are extremely fallacious and illusory; and they have tended, I fear, in no small degree, to puzzle and mislead practitioners. Occurring with any grade of typhous fever, every inflammation must necessarily partake of the character of typhus; for I deem it physically impossible, that any local affection can exist in any case, exhibiting a kind of action different from that under which the system labours. That external inflammations are often cured by stimulants and tonics is undeniable; the fact must be familiar to every reflecting physician: then why not attempt the relief of internal inflammation by the same means, especially when they are so vehemently called for by "*the state of the pulse and the condition of the system.*" It is only by delivering ourselves from the erroneous associations that have been so long kept up in our profession by indolent and empirical practitioners, that we can ever hope to arrive at any degree of certainty or satisfaction in the cure of diseases. The connection that exists between the names of certain diseases and the remedies which have been employed to cure them, become often as fixed and immutable as the names of certain plants or animals are with

the fruits they yield or the qualities they exhibit. But diseases are not like trees, which retain their character and continue to yield a similar produce through an infinite succession of ages. Who can undertake to say that the disease he subdued a week ago with an opiate and a blister, will appear again in the same form, or submit to the same management, at any subsequent period? No one surely would be so ignorant and preposterous. Let us cease then to prescribe for names alone, and learn to accommodate our remedies to the condition of our patients, and to the variable and ever-changing characters of diseases. Reason and experience, uniting together in this great work, shall teach us to surmount the obstacles which lie in our way to the temple of truth; whilst improvements will be constantly making in our science, honourable to human genius, and fraught with blessings to future generations.

J. NORCOM.

February, 1815.

Account of a Case of Spontaneous Extravasation within the Theca Vertebralis, which soon terminated fatally. By THOMAS CHEVALIER, Esq. Surgeon Extraordinary to the Prince Regent, and Surgeon to the Westminster General Dispensary.

[From the London Medico-Chirurgical Transactions for 1812.]

Miss D————, aged 14, for several days felt pain in the head and back, which induced her, on the 26th of February, to apply for medical assistance. Blisters were applied behind the ears, and opening medicines were ordered, which operated the following day, and relieved the pain in the head; but the pain in the back grew much worse, and was aggravated and accompanied with a tendency to sickness, on sitting up. On the 3d of March the pain in the back increased much, and on the following day her mother thought she discovered a little projection of the spinous processes of the lumbar vertebræ, in consequence of which I was desired to see her. I could

not discover any thing in the appearance of the back that was not natural, nor was any particular pain excited by pressure. The effort to sit up distressed her much; but her countenance was clear and healthy. The tongue was rather white: she had a moderate, regular pulse at 120. Under these circumstances the pain did not excite any particular alarm in my mind: I directed some leeches to be applied as nearly as possible to the seat of the pain, and afterwards an opiate lotion: she was also ordered to take three grains of antimonial powder, with a saline draught, every six hours, and I left her in full expectation of finding her relieved on the morrow, especially as, on strict enquiry, she could recollect no exertion or other violence by which the symptoms could have been produced.

On the following morning, to my great surprise, I was informed that, on the evening after I had seen her, she complained of a sudden and violent increase of the pain, and immediately went into convulsions, in which she continued between five and six hours and then expired. On the 6th of March I examined the body in the presence of Mr. Johnston, of Mortimer street, who had attended her from nearly the commencement. There was not the least appearance of disease in the brain or in any of the thoracic or abdominal viscera. The appearance of the spine was also perfectly natural. I therefore proceeded to cut away the bodies of the lumbar vertebræ, in order to expose the cavity of the spinal canal, close to the seat of the pain. I found it filled with extravasated blood, which, from its florid colour, must certainly have been arterial, and which covered the whole of the cauda equina. The cavity appeared to be filled much higher up; but I did not prosecute the dissection, as it did not appear to me of much consequence to ascertain the exact limits of the extravasation, and the violence that must have been committed in opening the cavity farther, would have rendered it difficult, if not impossible, to tell precisely from what vessel the blood had issued. The original seat of the pain would naturally lead me to suppose that the rupture must have taken place

near the commencement of the cauda equina, and it is probable the effusion of blood stopped within that part of the cavity inclosed by the dorsal vertebræ, as there was no appearance of it at the foramen magnum occipitale, when the brain was examined.

The blood, though florid, was not at all of an equal tint, it was very imperfectly coagulated; it is therefore probable that the vessel first gave way at the commencement of the illness, and again to a much greater extent at the time the convulsions came on.

I apprehend cases exactly of this description have not been very commonly seen; but that similar mischief should frequently occur, in consequence of violent strains, is naturally to be expected: and I believe the foundation of carious spine, which is often laid by such accidents, is not unfrequently attended by some such mischief, which, as it may take place in various degrees, would account for the great disproportion one sees in examining a multitude of cases of this sort, between the degree of curvature in the spine, and diminution of power in the lower extremities.

A child of 12 months old, who had just recovered from the operation for hair lip, was carried out by the nurse. On its return home, it seemed in much pain, and appeared to have lost the use of its lower extremities: it died in three days. On opening the body I found the spinal canal full of a bloody serum, which, I have no doubt, was occasioned by slight extravasation from a strain and subsequent inflammatory effusion. And how destructive such extravasation, and inflammation combined, may be to the structure and office of the nerves, was illustrated by the case of a miller, who suddenly lost the use of his lower extremities, by lifting a heavy sack of flour. He died on the 15th day after the accident. On examining the vertebral canal, some extravasated blood was found mixed with a sanious matter, the theca vertebralis was evidently inflamed, and the nerves of the cauda equina more completely rotten, than I have found them after many weeks'

maceration in putrid water, after removal from the dead body.

These cases seem to have a very close resemblance to apoplexy, and point out the propriety of bleeding as early as possible after their occurrence, in order to prevent an increase of extravasation before constitutional debility takes place, and show also the importance of distinguishing betwixt that primary weakness of the lower extremities, which is the direct result of the local injury, and that subsequent weakness, in which indeed they will participate, but which is the effect of the shock the constitution has received, and which probably does not fully predominate till several days after; the intermediate time being occupied by more or less of symptomatic fever, which requires a moderate antiphlogistic plan of treatment.

An account of a New Mode of Treatment in Chronic Rheumatism, and especially in Sciatica. Communicated by Alexander Marcet, M. D. F. R. S. One of the physicians to Guy's Hospital.

[From the London Medico-Chirurgical Transactions for 1812.]

I have frequently had the opportunity of observing, for the last six or seven years, that the profuse and unavailing sweats which often spontaneously take place in the early stages of rheumatism, and exhaust the strength of patients without alleviating their sufferings, are almost in every instance checked, and the pains proportionally relieved, by the use of antimonial medicines. Several distinct instances of this kind were recorded some years ago at Guy's Hospital in our clinical diaries, and the explanation which I ventured to offer of this paradoxical result, was, that the profuse flow of moisture from the pores, is not, in itself, the circumstance which diminishes pain in rheumatic affections; but that the relief is produced by a certain condition of the surface, or peculiar action of the cutaneous vessels, which, though generally productive of

moisture, is not necessarily connected with profuse perspiration. It is this peculiar action which antimonials are so apt to promote; and there is no difficulty in conceiving, how the violent and colliquative paroxysms of sweating which occur in rheumatism, gradually yield to this gentle and uniform operation.*

The following interesting case, which I think in every respect worthy of being communicated to the Society, appears to me to contain ingenious and instructive hints on the treatment of rheumatism, and on various physiological points, and to throw some light upon the preceding observations. It was drawn up by the patient himself,† a gentleman, who, although not belonging to the medical profession, is so well known in the philosophical and literary world, that his name, had I been at liberty to give it at full length, would have added great weight to the opinions and statements which his paper contains.

"About eighteen years ago," says Mr. C. "I received a sprain on horseback which occasioned very violent pain in my loins, and still more in the left hip, thigh, and leg, following the course of the sciatic nerve, and spreading itself over the sole of the left foot. I was then on the continent at Bruxelles; and after severe blistering and other remedies, not finding myself better, I was ordered to try the mud baths and douches of St. Amand. Having used them six weeks to no effect, I proceeded to Paris. I tried various methods of cure under the most eminent surgeons there, as warm and cold bathing, vapour, air conducted through a heated pipe directly to the part affected, warm and strengthening plasters, fumigations, &c. till at length the celebrated and unfortunate Monsr. De Seaux proposed the moxa. This was accordingly applied with

* It is probable also that the invariable tendency of antimonials to determine gently to the intestines, may contribute to this beneficial effect. Opium alone, often checks the most distressing symptoms, but its mode of operation is altogether different.

† R. C. Esq. F. R. S. &c. &c.

more than common severity, and the suppuration was maintained longer than usual, but without effect. In this state I was, with many other English, put into a damp prison, and a violent rheumatic affection fell upon the injured parts. I remained in this situation fifteen months without a possibility of applying any remedy. Upon recovering my liberty, an English physician proposed to me a quack medicine, known in Paris by the name of Goderneau's powders,* adding strong testimonies in its favour, although the French physicians reprobated it as unfit for human creatures. Much more convinced by the English physician than deterred by the French practitioners, I began this powder; and, after six doses of it, the pain diminished, and I was able to walk. Time has since that helped to wear out the complaint, and I have occasionally

* I have since that time had an opportunity of examining these powders chemically. They are a preparation of mercury. Each parcel given as a dose contains twelve grains (French). The colour is not so white as that of calomel. Examined with a lens, small globules of metallic mercury are discernible, and also some reddish particles, which are red precipitate. They are wholly volatile at a low heat like calomel, but volatilization separates them in a manner which proves them not to be homogeneous; for the vial in which they are sublimed is marked with three distinct zones, white, red, and gray. Water does not dissolve any sensible portion of them. Nitric acid dissolves the whole of them, and nitrate of silver, poured into the solution, lets fall a quantity of muriate of silver corresponding to about nine grains of calomel. The remaining three seem composed of one and a half metallic mercury, and one and a half red precipitate. By triturating the above substances in the above quantities, I produced a compound very like Goderneau's powders, but rather more uniform in its appearance. This is a very rude preparation of mercury, and the use of it should not be encouraged. Its effect is to produce a disagreeable sensation in the stomach, and afterwards to increase the appetite. It also purges, and, as I am told, sometimes produces vomiting. The French Faculty exclaim against it, but this they are apt to do against every medicine more active than orange-flower water; and yet they admit corrosive sublimate. The Chevalier Goderneau was a military man, and a knight of St. Louis, but no chemist; and since the revolution has swept him from off the face of the earth, the care of preparing the powders has devolved upon his sister, an old maiden lady, who, from time to time, swallows large doses of them for a sore foot, which has the advantage of always being about to heal.

been five or six years without its returning: sometimes travelling in frosts and snows in the north of Europe, passing two severe winters in the mountains of Germany, and sometimes inhabiting very warm climates. About five years ago, on going from Spain to Paris, at a bad season of the year, without having the precaution of adding to the clothing I had worn in the south, I felt a slight return of the complaint. A dozen baths and douches of artificial sulphureous waters, which are prepared in a particular establishment* in that city, relieved me, and I was wholly free from pain till I came back to England in 1809.

* The establishment of artificial mineral waters at Paris is very extensive and useful. All the known mineral springs in Europe are there prepared according to the best analysis of modern chemistry; and in sufficient quantity for drinking, bathing, or douches. The climate of Paris is colder in winter, and warmer in summer, but it is much less damp than that of London; and during five months of the year a continuance of fine weather is much more to be depended upon. Almost every evening from the beginning of May to the middle of September, all the public walks which abound in and near that city are crowded with persons who, very lightly clad, remain walking or sitting in the open air, till eleven or twelve o'clock at night; a system of life which no inhabitant of England could follow eight days consecutively without suffering for it. Warm bathing is therefore not of such general use or benefit in England as in France. There are few places where nature has done so much in favour of warm bathers as Bath; and art has done almost every thing except taking advantage of those very waters which have caused the prosperity of all the rest. The baths however have been considerably improved of late years, but still there does not exist at Bath so efficient a douche as those of the artificial establishment in Paris. The strongest douche at Bath falls from a perpendicular height of fourteen feet, as I have been informed. The highest douche at Paris falls from thirty-two French feet, a height which is wholly arbitrary as to the medical effect, and is merely founded upon this physical fact; that the weight of a column of water thirty-two feet high, is equal to the pressure of the entire atmosphere upon a basis equal to that of the column of water. But, as the force of falling water increases in the ratio of the square of the perpendicular height of the pipe through which it falls, the douche at Bath has not one-fourth part of the force of that in Paris, and the difference of their effect is very great. A small expense might rectify this deficiency at Bath, and establish douches of any height, from one to fifty feet if necessary, and which, in their application, might be proportioned to the sensibility of the patient

"No changes from heat to cold ever injured me so much as damp; and I had not long been in this country when the pains recommenced. They were not very troublesome at first, and during eighteen months I applied no remedy but increased clothing. In May, 1811, I grew much worse, and in October, the climate of Scotland, where I then was, so much increased my sufferings that I found it absolutely necessary to have recourse to more active methods. By the advice of Doctor Gregory I went through a course of calomel, taking from two to three grains of it with a certain quantity of opium every twenty-four hours, during six weeks; and seconding its efforts with frequent blistering. I have applied as many as three blisters at a time, from my hip to my foot, and renewed them as soon as the skin was sufficiently healed to allow a fresh application. By other medical advice since that period I have tried bathing in warm sea water, in artificial sulphureous waters, the same as those which had afforded me relief in Paris, and in the Bath waters. I have also used the dry pump there, vapour baths, and heated air, friction, cupping, leeches, and electricity. I have taken internally nitric acid, James's powders, guaiacum, nitre, cicuta, hyoscyamus and the eau medicinale; bark, and finally arsenic, but all to no purpose. Were I to state in general terms the effect of all these, I should say that cicuta, hyoscyamus and the eau medicinale procured me temporary relief; and that bathing of whatever kind usually made me worse. In short, I had nearly exhausted the materia medica, and I had no hope left but in a more favourable climate.

"Happening about five weeks ago to hear of a case which bore a strong analogy to my own, though the subject was not a human creature, it suggested to me an experiment which I resolved to try immediately. A celebrated race-horse,* belonging to a nobleman very well known at Newmarket, had been cured of a disorder which had all the symptoms of rheu-

* Vandyk.

matism, by sweating in body clothes, after every other remedy had failed. I therefore clothed myself in a sufficient quantity of flannel, and set out to walk as far and as fast as I could. With the utmost difficulty I proceeded half a mile; and the pain I suffered contributed not a little to the effect of the exercise in promoting perspiration. I returned home in a profuse sweat, rubbed myself dry before a fire, and went to bed. In about an hour I got up, found myself very much fatigued, but in other respects not worse. Forty-eight hours after this, I repeated the same kind of exercise, and found that I could walk a mile with as much ease as I had walked half that distance on the first day. My general sensations were the same as before; but, as the fatigue diminished, I thought I could perceive an amendment in my rheumatic pains. Two days afterwards I took my third walk, proceeding as before, and after it I had a better night, less interrupted by pain than any I had enjoyed for eighteen months. From that moment I looked forward with confidence to a cure, and I have not been disappointed. Every succeeding walk has diminished my sufferings, and I may safely say, that after the sixth, I was as free from pain as I had ever been in my life. The only remnant I have left to remind me I was so lately a cripple, is a weakness in the left leg, particularly about the ankle, together with now and then a slight sensation of numbness along the sciatic nerve. These are natural symptoms, considering that I had been so long without using the limb; and there is every reason to suppose they will yield to time and moderate exercise. I have now walked nine times in this manner for the purpose of sweating, and shall continue to do so probably much longer; for I find it of the greatest use to my general health to counteract the effects of sedentary habits.

"I usually proceed to my sweating walks in the following manner. Next to my skin I wear stockings, drawers, and a shirt, all of fleecy hosiery. Over these I put one, two or three pair of flannel drawers, one, two or three flannel waistcoats; and round my hips and loins I gird six yards of thick flannel,

making, beside the drawers and waistcoats, eight thicknesses of flannel on the chief seat of pain, and the origin of the sciatic nerve. Over all this I wear warm pantaloons and a great coat. When I have walked one or two miles, more or less according to the heat of the day, I am generally in a profuse perspiration. I return home, take off my wet clothes, have a couple of changes of well aired flannel, and then lie down upon a bed not warmed. I use no means to excite further perspiration after the muscular action is over; but, on the contrary, rather incline to check it as speedily as I can, taking particular care however to avoid catching cold.

"I do not perceive that the quantity I perspire has any influence on the efficacy of the remedy. I imagine that a violent action produced in the general system is the chief cause of its salutary effect. In consequence of this opinion, I cease the exercise the moment that a very increased action is well established. This is fully produced with the above quantity of clothing in moderately warm weather, by walking from one to two miles. For patients who are very much disabled, the quantity of clothing might be increased, and the distance diminished. When the excitement is well established, I find my pulse rise to between 90 and 100, and it is full and strong.

"When I began to experience relief from this mode of treatment, I was eager to prosecute the cure, and took my walks every second day. Being now relieved, I resume them only every fourth, fifth, or sixth day, as most convenient.

"I do not find myself under the necessity of any particular precaution as to avoiding cold the day I exercise; and, in this respect, sweating by muscular action has an immense advantage over warm baths, vapour, or heated air; particularly in a climate so damp as that of an island situated in the north seas must be. Physiology will easily point out many other advantages in exciting perspiration by a stimulus which invigorates, rather than by the enervating methods of heated air or water.

"Since beginning this process, I do not find that I am grown thin; and in my general health I am infinitely better. I

feel myself more strong and active, and less sensible of cold. My diet has been much as usual, but my appetite rather increased. I have occasionally taken a little bark to maintain the general tone of the system; and on returning home after each walk, I have found that a few drops of hartshorn in water were refreshing, and prevented thirst during the rest of the day.

"By what I have learnt from very good authority, the exercise I perform is not one-twentieth part of what the Newmarket riders undergo. There is hardly an example of one of those who follow the advice of a skilful physician in their process of wasting, that suffers by it; and the opinion that either their health is injured or their life abridged, is altogether erroneous. Excessive purging is never used now, except when the riders are too lazy to undergo violent exercise, for purging is found by experience to be a much more prejudicial mode of reducing their weight. Sweating by muscular action with an increased quantity of clothing might be recommended not only to rheumatic patients as a safe and easy remedy for their pains; but to persons of both sexes who are troubled with redundant corpulency.

"P. S. Since the above was written, I have had leisure to make some further observations which I beg leave to add.

"I am still more convinced that a very profuse and long continued perspiration, promoted by muscular action, is not necessary to the cure of rheumatism, or to the improvement of general health, unless corpulency be one of the evils which is to be removed. Perspiration may be useful as a proof that a very strong action is established in the system, and may in some sort be regarded as the measure of that action; in the same manner as the point of ebullition is referred to as a rough thermometer by those who want very warm water. Of the very much which has been attributed to sensible and insensi-

ble perspiration a great deal certainly is true; but may not much also be attributed to the action excited in the system by those very medicines which are supposed to promote perspiration? Does mercury, independently of the diseases it cures or causes, diminish the quantity of flesh by mere perspiration?

"As an encouragement to those who might be deterred from the use of this remedy by the apprehension that it is too severe for a weak constitution, I add the following table of my weight taken twice or thrice each day, during the time that I was performing six of these sweating walks, (one in every forty-eight hours), undertaken with a view to ascertain whether the quantity of exercise necessary to cure a sciatica, in such a case as mine, is so great as to cause a material loss of flesh in the patient.

"Before I began to weigh I had already walked nine times. It is therefore only by my general appearance that I can say I had not lost flesh by my first walks. Previously to the six walks of which I am going to state the results, I had been obliged to suspend my exercise for fifteen days, as the weather had been extremely bad, and I had an accidental attack of diarrhœa during four days. I weighed night and morning, before and after walking, always in the same clothes, and these as few as possible, and took every precaution against error.

	WEIGHT.						
	Morning.		After walking.		Night.		
Nov. 26	st. 13	lb 1	st.	lb	st. 13	lb 1½	
27	13	1	12	13	13	1	Walked 40 minutes; sweat profuse.
28	13	0			13	2	Out in a carriage most of the day.
29	13	1	12	12½	13	2½	Walked near three miles; sweat very profuse.
30	13	1			13	2½	Out on foot all the morning.
Dec. 1	13	1	12	13	13	2	Walked 30 minutes; sweat moderate.
2	13	1			13	3	Out on foot.
3	13	2	13	0	13	3	Walked 30 minutes, with increased clothing; sweat profuse.
4	13	1½			13	3½	Out on foot most of the day.
5	13	2	13	0½	13	3	Walked 30 minutes; sweat moderate.
6	13	1½			13	3	At home all day.
7	13	2	13	0	13	3½	Walked more than three miles; sweat very profuse.
8	13	2			13	4	Out on foot all the morning.
9	13	2½			13	4	Out on foot.

Experiments on the bark of the Coccoloba Uvifera. By John Bostock, M. D. of Liverpool.

[From the London Medico-Chirurgical Transactions for 1812.]

Although Kino has been, for a considerable time, well known as an article of the Materia Medica, there still remains some uncertainty respecting its origin. It is indeed generally supposed, that there are three substances, somewhat different from each other, to which this name is applied. The one which has been the longest known, and is perhaps the most frequently met with, comes from Africa; but we are entirely ignorant from what plant it is derived. A second species is said to be extracted from the Eucalyptus resinifera of New South Wales; while a third variety, which is brought from the West Indies, has by some writers been ascribed to the coccoloba uvifera, and by others to the mahogany.* Having obtained a quantity of the bark of the coccoloba uvifera from a friend in the West Indies, on whose accuracy I could implicitly depend, I embraced the opportunity of examining its properties, and comparing the extract formed from it with the kino usually employed in medicine.

The bark appeared to have been taken from branches of from one to two inches in diameter, and was partially rolled up, much after the manner of the common Peruvian bark. No part of it was more than one-twentieth of an inch in thickness, and some specimens considerably thinner. It was lined with a fine reddish brown cuticle, while the rest of the bark was of a light yellowish brown colour. The external surface was clean, and nearly free from any protuberances, but in many parts it was marked with slight longitudinal furrows. When cut transversely, the external part of the bark, for about one quarter of its thickness, exhibited a coarser texture than the remainder, and could not be reduced to an equally

* Duncan's Ed. Disp. 292; Thomson's Lond. Disp. 213; Murray's Mat. Med. 2. 304; Nicholson's Journ. 6. 232.

fine powder. It had scarcely any smell; when chewed and kept for some time in the mouth, it produced a moderate degree of bitterness and astringency, with a slight mixture of an aromatic flavour.

A portion of the bark reduced to fine powder, from which a little of the coarser part had been separated, was mixed with forty times its weight of water, and kept for an hour at the heat 200°. A light brown fluid was formed, which was filtered while warm. Although at first it was only slightly opake, it became completely muddy upon cooling, and remained so after being kept at rest for some days, but it was rendered nearly clear by filtration. Fourteen successive infusions were made with the same powder, when it appeared that all the matter was removed which water was capable of dissolving. The second infusion, like the first, was opake, but the thirteen remaining infusions were nearly, or quite transparent. By the application of heat the opake infusions were rendered transparent, but they became opake again as they cooled. The opacity was equally produced whether they were exposed to the atmosphere, or entirely excluded from it. After being kept for some time, all the infusions became mouldy, the quantity of mould being of course greater in the earlier ones. The water was found to have dissolved ·42 of the powder; the residue was of a redder colour, and of a more spongy texture than before the experiment. The infusion seemed to retain its transparency until all the water was evaporated; the extract was hard and brittle, and of a very deep reddish brown colour. It was softened by heat, and reduced to a half melted state. From what was observed during the evaporation of the infusion, it seems that water has the power of retaining in solution almost an indefinite quantity of the extract, although, when heated with the bark, it will not originally take up more than one-sixtieth of its weight of soluble matter.

When the coccoloba bark was added to water, and no heat applied, the effect was considerably less; a transparent light brown fluid was produced, after remaining several weeks in

contact; the process of moulding seemed, however, to be more rapid in this, than in the infusion made with heat.

A portion of the powder was digested with sixty times its weight of alcohol: the fluid at first assumed a dull olive colour, and gradually became more brown; the brown colour was increased by applying a gentle heat, but it still retained a considerable tinge of green. The fluid was then separated from the powder, and it gradually acquired a reddish brown colour, without any mixture of olive. The powder, after being subjected to the action of the alcohol, was found to have lost exactly half its weight; the residue was not very different in its appearance from the entire powder, except that it was rather more dry and fibrous.

The warm infusion, after being filtered, and while it was still recent, was subjected to the action of different re-agents, and by way of comparison, similar experiments were performed on an infusion of kino. The kino that I employed was the species commonly used in medicine, and which appeared to agree nearly with the description of the variety that is brought from Africa.* By being heated with water the greatest part of it was dissolved, but after the addition of several successive portions of water, a little remained which was no longer capable of being acted on: this undissolved part was dark coloured, hard, and gritty. The infusion became opake as it cooled, but by filtration it was rendered nearly transparent. Its colour was very different from the infusion of the coccoloba, the latter being brown with a tinge of red, while the kino was redwith a slight tinge of brown. The re-agents employed were, 1. jelly prepared from isinglass, 2. muriate of tin, 3. oxy-sulphate of iron, 4. superacetate of lead, 5. tartarized antimony, 6. lime water, 7. sulphuric acid, and 8. subcarbonate of potash; the saline bodies were all in the state of saturated solution. The results were as follow:

* Thomson's Lond. Disp. 213.

COCCOLOBA.	KINO.
1. Copious, light brown, flocculent precipitate.	Precipitate less copious, and of a reddish colour.
2. Copious light brown precipitate.	Precipitate much less copious, and of a light buff colour.
3. Copious black precipitate.	Copious precipitate of a dull olive colour.
4. Copious precipitate, of a grayish colour.	Precipitate less copious.
5. Copious gray precipitate.	No effect produced.
6. Considerable gray precipitate.	Precipitate much less copious.
7. Copious whitish precipitate.	Precipitate much less copious.
8. Brown precipitate in moderate quantity.	No precipitate; the red colour deepened and brightened.

The tincture of the coccoloba bark was not affected by the addition of water. Jelly and the oxysulphate of iron threw down precipitates nearly similar to those from the watery infusion, but the muriate of tin had no effect. A quantity of the tincture was slowly evaporated, and a residuum was obtained which was brittle, and of a browner colour than the extract from the infusion. It appeared to be scarcely soluble in cold water, but in hot water the greatest part was dissolved; the solution became muddy as it cooled, it was rendered transparent by heat, and again grew opake when the heat was withdrawn. It was then filtered, and an infusion was obtained which was nearly transparent, and of a light brown colour. The tincture of kino being treated in the same manner, a residuum was obtained, which was of a deep red colour, and of a more friable texture than the kino itself. The residuum was, for the most part, readily soluble in hot water, although a small portion of a black substance remained undissolved. This part was soluble in alcohol; and the solution was not precipitated by water. Comparative experiments were then made upon these two infusions, by adding to each of them the same re-agents as in the former instance; the effects were nearly similar to those mentioned above.

A portion of the residuum of the coccoloba, after the action of water upon it, was then digested in forty times its weight of alcohol, and a light olive tincture was produced, which gradually acquired a shade of brown. By this operation the pow-

der lost about one-eighth of its weight. When the converse of this experiment was tried, i. e. when the residuum of the tincture was digested in water, scarcely any effect was produced, the infusion was slightly tinged by the oxysulphate of iron, and a very minute precipitate was produced by jelly.

From the above experiments we may conclude, that the extract of coccoloba is a substance of the same nature with the kino used in medicine; but that it differs from it so far as to show, that they are not derived from the same plant. They are very similar in their external appearance and physical properties; but there is an obvious difference in the colour, both of the infusion and tincture. The effect of the re-agents is also different; jelly producing a brown precipitate with coccoloba, and a reddish one with kino; iron a black precipitate with coccoloba, and an olive-coloured one with kino. The effects of lime and sulphuric acid are much less with kino than with the coccoloba: there is no precipitate thrown down either by antimony or the subcarbonate of potash from kino, while the effect upon the coccoloba is very considerable. The soluble part of the coccoloba bark seems to consist principally of tan, which is in all respects similar to the tan of the gall nut; while the tan of which kino is chiefly composed, resembles that of rhatany, and the substance which is artificially procured by Mr. Hatchett's process. The tan of the coccoloba bark is accompanied, as is usually the case, with gallic acid, and it likewise exhibits those properties which have been ascribed to the presence of a specific vegetable product called extractive; but the existence of this I think has not been distinctly proved.* The substance procured by evaporating the watery infusion, is in part rendered insoluble by the process, and the same would appear to be the case with kino, as it is probable that kino is formed by evaporation, from an infusion or decoction. Its appearance indicates that it has undergone this kind of operation, and I am not acquainted with any in-

* See Nicholson's Journ. 24. 215—222.

stance in which a substance, composed principally of tan, naturally exudes from a plant.

That part of the coccoloba which is soluble in alcohol, and not soluble in water, was examined by evaporating the tincture formed from the aqueous residue of the bark. By the evaporation, a substance was left, the greatest part of which was of a greenish brown colour, and along with it a little reddish matter. Its odour was fragrant, something like that of the balsam of tolu. Water that had been digested upon it produced only a slight effect with isinglass, and the oxysulphate of iron. Neither the tincture of this substance nor of the entire extract of coccoloba were precipitated by water. The substance left, after digesting in water the residue obtained by evaporating the tincture of the recent bark, was very similar, in its colour, odour, and consistence to that procured above: it approaches to the nature of the resinous balsam, but its solution in alcohol is not precipitated by water, although it is not itself soluble in that fluid.

The following may be regarded as an approximation to the analysis of the bark of the coccoloba:

Woody matter - -	50
Tan - - - -	41
Balsamic substance -	9
	100

Hints relative to the most eligible method of conducting Meteorological Observations. By JOHN GRISCOM, Fellow of the Literary and Philosophical Society; member of the Medical Faculty of Queen's College, New-Brunswick, (N. J.) Professor of Chemistry in Columbia College, &c. New-York, 4to.

[Read before the Literary and Philosophical Society of New-York, on the 8th of December, 1814.]

AN accurate register of a careful and extensive series of observations on atmospherical phenomena, under the direction of this society, might, it is conceived, very usefully contribute to enlarge our knowledge of the nature of those changes, so important to human welfare, and to throw into the common stock of philosophy, facts conducive to its advancement.

Vicissitudes of weather are regarded, by the greater part of mankind, as events altogether fortuitous in their nature, and subject to influences, the precise order of which cannot be ascertained.

Philosophers cannot, indeed, boast of much progress in this field of discovery. Governed, as those changes doubtless are, by chemical, rather than by mechanical laws, it is not to be expected that mankind will ever arrive at that perfection of knowledge, with respect to these phenomena, which has crowned their labours in relation to the heavenly bodies. But, although an acquaintance with the ultimate principles upon which atmospheric changes depend may never be attained, it is scarcely to be doubted, that a diligent course of observation and experiment, performed by men of science, in various parts of the globe, would furnish results which might serve as a foundation for a theory much more perfect than any which has been proposed.

Facts of such common occurrence, and so fully within the reach of observation, as are those of wind, rain, storms, changes of temperature, &c. are, doubtless, susceptible of arrangement and classification, as well as those in other de-

partments of natural science. It is well known that people whose peculiar situations and employments habitually stimulate them to these observations, acquire an unusual degree of skill in the prognosis of weather.

It is thus that shepherds and sea-faring men become deeply versed in the varying physiognomy of the sky. But the knowledge thus incidentally acquired, and insulated from public convenience, were it reduced to something like method and system, might be attained and communicated with the same facility and rapidity as other portions of physical science.

The invention and use of instruments, especially of the thermometer and barometer, have enabled the moderns to arrive at much greater precision than the ancients in their acquaintance with the nature of the atmosphere, and of its agency in the operations of the globe. But the application of those instruments has hitherto been too much limited to a few whom curiosity has occasionally prompted to employ them. In the operation of causes which are co-extensive with whole climates, and wide-spread regions of the earth, it is not to be expected that a few detached observations can be sufficient to establish general laws.

We live in a period, however, in which the spirit of philosophy seems more than ever awake to the interests of humanity; and deriving, as we do, so many important advantages from the sagacity and industry of our progenitors, it becomes our reasonable duty to extend the same benefits, as far as we are able, in a progressive ratio to our successors.

Grounded upon views of this nature, an opinion of the importance of accurate and numerous meteorological observations appears recently to have prevailed in many places, especially in Great Britain.

We are not aware of there being any complete regular series of observations kept in this country. We know, at least, of no journal in which such a series is registered. It appears to *us** very desirable that this deficiency should be

* This paper was read as the report of a committee appointed to consider of the subject to which it relates.

supplied: and we should willingly hope that an example, fairly held up by this society, would be followed by similar associations in other parts of the United States.

We proceed to an enumeration of those particulars which we consider as the principal desiderata in observations of this nature.

1st. *Changes of temperature.*

In the choice of a thermometer, as the standard of temperature, great care should be taken that the instrument be well made. The diversity so frequently observable in thermometers under the same exposure, arises principally from the want of a complete expulsion of air from the tube, and from imperfect graduation. For the estimation of sudden changes of temperature, thermometers with cylindrical reservoirs are preferable to those which are globular.

The mean heat of the atmosphere is so easily affected by irregular currents of air through halls, entries, and other situations within the walls of a building, that it is deemed absolutely necessary, in order to arrive at the standard temperature, that the instrument be exposed to the open air, sheltered only from the sun and rain. A situation which we consider the most favourable, would be a post, placed at some distance from any building which might reflect heat, and surrounded, in the warm season, to the distance of ten or twelve feet by verdure. A sloping roof should encompass the post to protect the instrument from direct rays, but not so as to prevent a free and uninterrupted circulation of air. Beside an instrument of the ordinary construction, thus situated for determining the mean temperature of the air, as deduced from three stated observations in every twenty-four hours, viz. at 8 o'clock, A. M., 1 P. M., and 6 P. M., we would recommend that the society procure, if possible, a good Six's, or self-registering thermometer, by which the greatest heat of the day, and the greatest cold of the night, can be determined by bare inspection, several hours afterwards. The highest intensity of solar heat, as indicated by the thermometer, is obtained when

the instrument is protected by a box of glass from aerial agitations, and exposed to the direct influence of the sun beams. The posterior side of the box may be of wood, and its internal surface should be painted black, or lined with black cloth. The highest elevations of an instrument thus adjusted, during our hottest weather, would, if carefully registered, form an interesting addition to the observations usually noted.

2d. *Changes of atmospheric pressure.*

We have only to recommend that the barometer employed for this purpose be a good one; that it be furnished with a nonius for reading off the elevations to hundredths of an inch; that the figure of the mercurial surface be noted, with the elevations, whether concave, convex, or horizontal; and that, in addition to the regular observations, the height of the quicksilver in this instrument be attended to as far as the observer can conveniently do it, in all remarkable states of weather, more especially with respect to winds and storms.

The height of the place of observation, in feet, above the level of the sea, should be carefully ascertained.

We deem it of some importance to remark, that of the several methods practised of registering the daily heights of the thermometer and barometer, that which may be called the graphic method, which consists in drawing a line in conformity to the elevations and depressions of the mercury across a sheet, divided by lines which correspond with the scale of the instrument, appears to be preferable to any other. It might be best, however, at least once a day, to note, in numbers, the precise elevation.

3d. *The amount of condensed vapour.*

The instrument principally to be relied upon, for this purpose, is the pluviameter, or rain gauge.

We deem it unnecessary to point out what we conceive to be the best method of constructing this instrument. The committee which shall be chosen to execute the orders of the

society in relation to the subjects of this report, will, necessarily, avail themselves, in directing its construction, of such hints given by the best writers on philosophy, as they may think worthy of attention. The instrument should be placed as near the surface of the earth as circumstances will admit; as it is well ascertained that, in such a situation, more rain will be caught than in a position considerably elevated above it. As an accurate employment of the rain guage is particularly desirable, the careful attention of the observer will be requisite, during the fall of snow, to collect exactly that portion which falls within the exposed circumference of the instrument, and to melt it without any loss by evaporation.

4th. *Changes in the direction and force of the wind.*

In order to ascertain the quarter from whence the wind blows, any of the city vanes which are known to turn easily, and which are within the reach of the observer's eye, may, perhaps, be sufficient. It would, however, in our opinion, be desirable that an instrument combining the properties of an anemoscope with those of an anemometer, which determines the relative force and velocity of the wind, should be provided as soon as the funds of the society will justify a little expenditure for this purpose. Various instruments have been contrived for measuring the force of wind; but we believe the one invented by the celebrated Kirwan is by far the most complete. It is described in the transactions of the Irish Academy, and in the 34th volume of Tilloch's Philosophical Magazine. By this the strength of the wind, from a gentle breeze to the most violent hurricane, may be exactly measured.

The subjects now enumerated, are considered *essential* in every course of meteorological observations, which has the ordinary aim either of curiosity or information. But to render such a series complete; to make a collection of facts that may be held up as an example, and serve as the basis of useful induction to those who shall come after us, there are various other phenomena which, we think, ought not, on an occasion

of this nature, to be neglected. The committee hope not to trespass beyond the proper limits of their duty in attempting a brief detail of those which they consider the most important.

The relative quantity of moisture contained in the atmosphere at any given period, is an object, the knowledge of which is desirable not only for the purpose of comparison, but in an especial manner as the means of improving the theory of evaporation and condensation. Hygrometers of different kinds, and depending on different principles, have been employed for this purpose. That contrived by lieutenant Kater we have ascertained to be very sensible in its operation. Professor Leslie, of Edinburgh, has invented several instruments for this purpose, which have simplicity and facility of management to recommend them. They are particularly described in his late work on the "Relations of Air to Heat and Moisture." It is well known that in warm weather a common drinking glass is a good hygrometer; for when the internal surface is refrigerated by pouring in a cold fluid, the moisture which condenses externally, affords an indication of the quantity existing in the atmosphere, which, when excessive, is considered by many as presaging a change of weather. Such indications, when remarkable, are worthy of being registered by the daily observer; and we would recommend that the person appointed to keep the meteoric register should be instructed to note the state of the hygrometer.

Before a correct, or, at least, a complete, theory of the weather can be arrived at, it will, in all probability, be requisite that greater advances be made in our knowledge of the *electrical* changes that take place in the atmosphere during the transitions from heat to cold, from foul to fair, and the contrary. To ascertain this point effectually is no easy task. It will require great patience and assiduity of attention. But though an extensive course of electrical observations, persevered in for a long time, might prove too laborious, it would still be desirable to note the observance of those changes which

occur in all the most remarkable revolutions of the elements. This could be done by means of an insulated spire, or an electrical kite, or, with still greater facility and cheapness, though less effectually, by the atmospherical electrometer of Saussure, or the more simple instrument of Cavallo. We have observed remarks of this nature in some of the meteorological journals of Europe, and cannot but consider them as adding value to the series of journalized events.

However fleeting and changeable the forms and arrangements of the clouds may appear to an ordinary observer, it is, we know, upon such forms and arrangements that the judgment is most correctly founded, with respect to the probability of an alteration of weather. But the skill of the weather-wise, for want of a more precise, technical language, remains almost altogether empirical. An attempt to remedy this defect, was made some years ago by Luke Howard, by the invention of a nomenclature applicable to the various forms of suspended water; or, in other words, to the modifications of clouds. "By modification is to be understood, simply, the structure or manner of aggregation, not the precise form or magnitude; which, indeed, varies every moment in most clouds. The principal modifications," he observes, "are commonly as distinguishable from each other as a tree from a hill, or a hill from a lake; although clouds of the same modification, considered with respect to each other, have often only the common resemblances which exist among trees, hills, or lakes taken generally."

"There are," he finds, "but three simple and distinct modifications, which he thus names and defines:

"1st. Cirrus. A cloud resembling a lock of hair, or a feather. Parallel, flexuous, or diverging fibres, unlimited in the direction of their increase.

"2d. The Cumulus. A cloud which increases from above, in dense, convex, or conical heaps.

"3d. The Stratus. An extended, continuous, level sheet of cloud, increasing from beneath.

"There are two modifications which appear to be of an intermediate nature; these are

"The Cirro-Cumulus. A connected system of small roundish clouds, placed in close order, or contact.

"The Cirro-Stratus. A horizontal, or slightly inclined, sheet, attenuated at its circumference, concave downward, or undulated. Groups or patches having these characters.

"Lastly, there are two modifications which exhibit a compound structure, viz.

"The Cumulo-Stratus. A cloud in which the structure of the cumulus is mixed with that of the cirro-stratus, or cirro-cumulus. The cumulus flattened at top, and overhanging its base; and

"The Nimbus. A dense cloud, spreading out into a crown of cirrus, and passing beneath into a shower."

These modifications are defined with such further precision and minuteness as to enable a person, of common intelligence, by the aid of a little observation, to understand and to apply the terms. And to render the daily insertion of these characteristic traits of weather more easy, each modification may be represented by a short mark, or character, which may be arranged in a column under the head of clouds. Considering the facility with which such a list may be kept, the committee would recommend its adoption. They observe, that among the numerous diaries of the weather which are published in the foreign journals, that which is kept by the author of the essay on the clouds appears to be one of the most instructive.

In mountainous countries, the figure, position, and motion of the clouds, afford, to the experienced observer, the means of prognosticating, with very considerable accuracy, the approaching state of weather, although their appearances are very deceptive to persons accustomed to view them only as suspended over a widely extended horizon. A course of judicious observations on the atmosphere in a number of such situations would, doubtless, make a valuable addition to the present stock of meteorological facts.

There are but few opinions, in relation to the subject before us, more general, than that which ascribes to the moon a determinate influence over the atmosphere. It is of material consequence, we conceive, that this opinion should be brought to the test of ample experience by regular and widely extended observation. The most careful set of observations, relative to this part of the science of meteorology, which appears on record, is that of M. Toaldo. The inferences which he draws from a cautious comparison of the weather with the corresponding positions of the moon, during the long period of one thousand one hundred lunations, are to the following amount:

There are ten situations of the moon in each lunation important to meteorology, viz. the four quarters, the perigee, the apogee, the two passages of the equator, (ascending and descending equinoxes,) and the two lunistices, as they are termed by La Lande, viz. the north, when the moon approaches the zenith, and the south, when it is most depressed. Then, the probability of a change of weather, compared with the probability of no change, is as follows:

At New moon,	6	to	1
Full moon,	5		1
First quarter,	2 1-2		1
Third quarter,	2 1-2		1
Perigee,	7		1
Apogee,	4		1
Ascending equinox,	3 3-4		1
Descending do.	2 3-4		1
Southern lunistice,	3		1
Northern do.	2 3-4		1

When several of these points correspond, the probability of change is much increased. Thus, if the new moon happen at he turn of the perigee, the chance is as 33 to 1

do. with apogee,	7	1
Full moon with perigee,	10	1
do. with apogee,	8	1

Although there are several considerations, unnecessary to be now introduced, which lessen the dependence that might otherwise be placed on these results, yet every meteorological register, we think, should contain a column exhibiting the aspects of the moon, with the period, at least, of the apogee and perigee.

A collation of numerous diaries of this sort may, at some future day, either confirm, or totally invalidate, the opinion entertained by some philosophers, that terrestrial as well as celestial events have regular periods of return; and that there are cycles of weather corresponding with some of the lunar cycles.

The period of the apogee comprehends between eight and nine years; and, according to Toaldo, there is a return of nearly the same seasons in those periods successively. Others place greater confidence in the lunar cycle of nineteen years. The ancients, according to Pliny, ascribed to certain periods, a similarity of weather and seasons. But unless it can be shown that the corresponding portions of those periods take place at the same time of year nearly, which is clearly not the case with the period of the apses, they cannot be intitled to much credit. But it may, nevertheless, be not improbable that a cycle of greater duration may be eventually found, in the return of which there will be a complete recurrence of all those states and conditions with respect to planetary and elemental revolutions, that shall conspire to produce the same phenomena.

There is another species of meteorology, very frequently attended to by those who reside in the country, and which is considered by some as susceptible of much precision, and rarely defective in its results. It is that which regards changes announced by prognostics drawn from animals, plants, and every thing which indicates changes of atmosphere.* A good journalist should not hesitate to insert any remarkable

* Vide Rozier's Cours Complêt d'Agriculture, Art. Presage.

presage of this nature. The domestic fowl, the swallow, the hog, the horse, and other animals, may thus contribute to the extension of useful science. Plants which fold their petals and leaves in the night, and usually open in the day, are delicately affected by incipient changes in the air. The calendula pluvialis derives its name from this property, which is said to be very decisive.

An unusual transparency of atmosphere, in which distant objects become visible by refraction, and which favours the propagation of sound in an uncommon degree; the perpendicular ascent of smoke, and a more than usual stillness and serenity of nature, are likewise to be taken into the account.

But, among the various objects which claim the attention of the meteorological observer, he must, by no means, omit those from which his science, in its strict and literal acceptation, derives its name. The phenomena of meteors constitute an interesting part of natural history. Hence every remarkable appearance of fire balls, shooting stars, ignes fatui, together with the aurora borealis, zodiacal light, halos, parhelia, para selena, lunar rainbows, and other analogous occurrences, ought to be diligently observed, and carefully noted.

Finally, we recommend, as a very useful addition to the series of facts brought into view, that the period of the first appearance of early flowers, in open and exposed situations, in the spring of every year, designated by their botanical names, be noted, with as much precision as the circumstances of the observer will admit. It would likewise be proper to remark the first or earliest visits of the swallow, martin, and other birds, and likewise those of some of the aquatic tribes, as the mackerel, shad, &c.

Information of this kind would probably afford, to persons at a distance, more correct data, from which they might draw conclusions with respect to the nature of our climate, than the best register of the weather, and of the instruments which denote its temperature and its changes.

Extract of a letter dated Cincinnati, November 9, 1814, *from Dr. N. Crookshank to Dr. Peter Wilson, Columbia College.*

"On the 4th of June last, about meridian, a dark cloud appeared in or near the southwest point of the horizon, having the usual appearances of electricity, as was known, by the hemispherical or convex appearances of various parts on the superior sides of the different shelves composing it; while the lower part appeared parallel to the earth. Some light clouds were seen to move with great rapidity from the northeast, and appeared to meet the former; when both seemed to rise perpendicularly several degrees, so as to attain an extraordinary height. I then predicted hail, which presently fell, of uncommon size. Several were picked up after the shower, which ended in rain, too large to put into a cup four inches in diameter. Others were picked up in the time of the fall, thirteen, fourteen, and even fifteen, inches in circumference: yet, strange to tell, no material damage was done, though the width of the shower was five miles, and twenty or thirty in length; the tract of the largest hail, in centre of the former, about a mile. It appeared to consist of several clouds detached from each other, and moving in echelon, so as to appear as if the hail had fallen in stripes. Providentially there was but little wind, and the number of hail stones comparatively few. The larger pieces appeared to be aggregated of numerous others, which were likewise composed of smaller ones. Some, however, of more than ordinary size, appeared single, as if they had been snow balls immersed in water, and refrozen. The largest of these I saw resembled the section of a large hen's egg. About 5 P. M. the same afternoon, a hot or very warm current of air passed over, of such temperature and composition, as to threaten those who breathed it with instant death. Their only remedy was by stooping down near the earth. It actually did prove fatal to the leaves, and parts of leaves of many vegetables, by which means its traces were discovered above sixty miles, along and near the Ohio river.

Near Cincinnati it whitened the points of the green blades of a whole field of oats. Its causes are a proper subject of investigation for your society; and I cannot help thinking, that whoever discovers them, must become a literary creditor to those who have derived the sirocco wind from the sandy deserts of Arabia.

"N. B. The current of hot air happened entirely out of the tract of the hail, to the southward and eastward of it."

A Case of Fungus Hæmatodes. By GEORGE LANGSTAFF, Esq. Surgeon, New Basinghall Street. Communicated by William Lawrence, Esq.

[From the London Medico-Chirurgical Transactions for 1812.]

JOHN WHITEHORN, a boot-maker, about 30 years of age, of middle stature, rather corpulent, and of that sallow complexion peculiar to a female whose constitution has been much impaired by long obstruction of the catamenia, applied to me on the 24th of October, 1811, respecting a small tumour on his left shoulder, situated just below the spine of the scapula.

It was about the size of a cherry, and had a blueish red appearance.

In the situation of the swelling, there had been, from the time of birth, a large mole, which, eighteen months ago, had gradually fretted into a sore. From the latter a painful and occasionally bleeding fungus sprung up. Previously to this time, his general health had been exceedingly good.

Two other tumours, each about the size of a small nutmeg, had formed in the left axilla about a fortnight before I saw him. They were free from pain; and the skin covering them had its natural appearance.

I cut away the tumour from the shoulder on the 26th of October. The operation was attended with considerable bleeding from numerous small vessels. The removed part consisted of a firm purple vascular mass, originating from the cutis.

A disposition to the formation of fungus retarded the healing of the wound for five weeks; and the cicatrix had not a natural appearance.

The swellings in the axilla gradually increased, and united into one mass, which grew constantly larger, in spite of the employment of various local means, such as leeches, cold washes, and different stimulating applications. The health became affected, and the functions of the bowels particularly disturbed: small doses of mercury, purgatives, and tonics were employed; and a low diet enjoined.

By December the swelling had increased so much as to occupy the whole axilla, from the pectoralis major to the latissimus dorsi; and it seemed to extend outwards, between those muscles, so as not to press on the axillary nerves and vessels. Its circumference and base were as hard as a cancerous breast: the body of the tumour was elastic, and seemed divided into sacculi containing fluid: the surface was irregular, and the prominences gave a feeling as of fluid contained in cysts. The skin was much stretched and discoloured: it had a purpleish hue, not unlike that of erysipelas; but its temperature was natural. There was no pain until the end of November, when a violent attack took place, with considerable fever: these subsided, leaving the patient occasionally subject to darting pain in the swelling.

One of the prominences at the upper part of the tumor enlarged considerably, and the integuments became thin. It evidently contained fluid, and was very painful when touched; but there had been neither throbbing nor heat in the part. It continued in this way for some time, causing great suffering and disturbance in the constitution. I determined to make a small puncture, to give the patient a chance of relief, and gain some knowledge of the nature of the tumour.

Four ounces of dark coloured blood flowed from the opening; and the discharge was followed by immediate relief.

I closed the aperture, which was much smaller than that usually made in phlebotomy, with adhesive plaster; but a con-

siderable quantity of sanies and ichor flowed through it for nearly a fortnight, greatly debilitating the patient.

The tumour increased but little after this period, nor was pain complained of till the 12th of January, when excruciating and darting sensations were felt in the swelling, on the side of the neck, and along the under part of the arm. These were sometimes so severe, that the patient supposed he should not survive them. The circumference of the tumour now became considerably enlarged, the prominent parts continued elastic, and the integuments were of a deep purpleish red colour. The continued pain and constitutional derangement, accompanied with difficulty of breathing, confined him to bed from the 19th of January, and were not alleviated by any local or general treatment.

On the 8th of February, the tumour measured six inches and a half in the long axis, and six in the short; the central point began to project into a nipple-like eminence, which was apparently only covered with cuticle. It was surrounded by a beautiful deep red and purple coloured disk, the diameter of which was two inches and a half; the skin from this part to the extent of the swelling, was gradually shaded with purple and red streaks. It bore considerable resemblance on the whole to a large inflamed female breast. To the violent pain already described, darting sensations were added, passing from the axilla through the chest, and accompanied with dyspnœa. During the paroxysms of pain, the pulse was from 100 to 120 in a minute; and on its abating sometimes as low as 69.

On the 20th the integuments of the nipple-like projection assumed a dirtiesh white appearance, at the most prominent point, and an ichorous discharge exuded.

The cuticle separated on the 22d, and exposed an opening about large enough to admit the end of a probe, through which a considerable quantity of blood and ichor oozed. Instead of a fungous growth, there was only a granular state of the surrounding cutis. The tumour still increased, and measured on the 25th nine inches by seven.

Feb. 27.—The discharge was still copious and perfectly inodorous; which indeed had been the case from its commencement. The integuments, at the centre of the tumour, were of a brownish red appearance, and so very thin to a considerable extent, that I was inclined to think they would give way.

Feb. 29.—The discharge was not lessened, the edges of the ulcerated part were beginning to cicatrize, but the aperture showed no disposition to heal. I introduced through it the whole length of a common sized probe; it took an oblique direction towards the axilla. The discharge was not increased when the probe was withdrawn; although it might have been supposed, from the fluctuation, that a large quantity of fluid was contained in the centre of the tumour.

Another round, hard and painful tumour, about the size of a pea, was discovered on the shoulder, half an inch from the one last mentioned.

March 1.—The swelling still increased in the horizontal direction, though there had been a considerable discharge of blood with serum; the integuments were of a brownish red colour, and felt extremely thin. A fourth tumour, similar to those on the shoulder, presented itself about an inch above the upper absorbent inguinal glands. His health now declined rapidly, he was much emaciated, and complained of constant and violent pains in his loins and chest, and his respiration was hurried on the following day.

March 2.—The discharge from the small aperture had greatly diminished; the tumour was much increased, all the patient's sufferings aggravated.

March 6.—From the last date to the present, the lateral increase of the swelling had been astonishing, as its transverse measurement was now fourteen inches. The skin, about two inches above the part which burst and afterwards was cicatrized (except the small aperture through which the fluid had oozed more than a fortnight,) was extremely thin, prominent, and likely soon to give way.

The circle, where the integuments first ulcerated, was con-

siderably enlarged, owing to its distention by fluid, the aperture having been for some days closed; the new formed skin was changed into a white and fibrous substance, which adhered with great firmness. The pain in the tumour was at this time so particularly violent, from the integuments being so much distended, that I felt inclined to make a small puncture to afford him temporary relief; but on the evening of this day, the integuments gave way, and a considerable quantity of bloody serum was discharged, which occasioned immediate ease; but fluid still seemed contained in the several parts of the tumour.

March 10.—The difficulty of breathing increased, and he had coughed up blood. The integuments at the most convex part of the tumour were beginning to ulcerate, and there were several apertures, through which a probe might be passed into it. The discharge was still considerable, thought it did not tend to the diminution of the swelling.

The pain, difficulty of breathing, and other symptoms grew more and more distressing, and diarrhœa came on, with excruciating pain in the bowels. The tumour assumed an appearance of sphacelation at one part, and the discharge became very offensive.

Although the powers of the constitution were reduced to the lowest ebb, a disposition to form these tumours still remained, as one made its appearance on the right side of the neck, and another on the back, and the former became considerably enlarged. Violent sickness, accompanied with tormina and tenesmus, and other dysenteric symptoms, continued till the 16th of March, when death took place.

After insulating the integuments from the base of the tumour, and dissecting back those covering the chest and posterior part of the arm, the superficies of the diseased mass was found to be formed of a congeries of various-sized dark purple-coloured tumours, which had extended between the *pectoralis major* and *minor* muscles, as far as the origins of the

latter, and backwards two inches beneath the *latissimus dorsi*, but had not produced any alteration in their structure.

The axillary absorbent glands were larger than natural; and although the tumour adhered to the capsular ligament, the consequence was only slight thickening of that part.

The vessels and nerves of the axilla were closely imbedded in the upper part of the disease, but except the musculo-cutaneus, or perforans Casserii, which was completely impacted, and lost in the tumour, they were not compressed to such a degree as to impede their functions, or produce any morbid appearance.

The morbid growth weighed four pounds avoirdupois weight, and when the integuments and cellular substance, covering the various-sized tumours which formed the whole, were removed, and the axillary nerves and blood vessels cleaned, it bore much resemblance to an enormous bunch of black Muscadine grapes.

All the tumours situated on the external part of the large one, had that spongy elastic feel peculiar to it, which so singularly characterizes this horrid disease, and which has been described by those who have written on fungus hæmatodes, but particularly by Mr. Burns, Mr. Hey, and Mr. Wardrop.

Several of the tumours were cut through, to examine their internal structure and contents; some were found to be composed of a soft medullary substance, like brain mixed with coagulated blood; others with a dark gray-coloured substance in consistence similar to the former; a few were of a blackish colour, but had the same arrangement of structure as the former, and the fluid expressed from them was exactly like the pigmentum nigrum on the choroid membrane of the eye, or the inky fluid in the bronchial glands, and when their contents were pressed out, the condensed cellular cysts only remained, with a loose fibrous reticulated arrangement of their internal parts, with the ramifications of several minute blood vessels.

The main bulk of the disease was next divided; it presented an irregular union or blended appearance, similar to what

composed the other tumours, and the contents were confined by strata of apparently fibrous reticulated condensed cellular substance; but there were three cavities, each of which contained about an ounce of loose coagulated blood.

The sloughing process on the anterior part of the tumour had not penetrated beyond the integuments, but had changed that part of it beneath them into a white sloughy looking substance.

The blood vessels were numerous, but very small.

There was a tumour in the sternum, under the periosteum, about the size of a walnut, of a brownish red colour, and a pulpy structure. It had caused the absorbents to remove the bone, to allow of its projecting inwards and outwards, and was only held by the ligamentous membrane which covers both sides of that bone; the sternum was softened, and its cancelli filled with the same kind of matter through one half of it; several of the ribs on both sides had similar tumours in them, not far from their cartilages, and under the periosteum. The liver was of a paleish red colour, rather soft in texture, and bestudded throughout its substance with various sized tumours, contained by capsules; some of them consisting of medullary matter mixed with blood, others possessing exactly the same consistence, but of a cineritious colour, and intersected with cellular septa.

There was a small tumour similar to those in the liver, between the layers of peritoneum which form the ligamentum suspensorium hepatis; and two on the front of the pancreas, one about the magnitude of a pidgeon's egg, the other the size of an hazel nut, but connected only by cellular substance to that viscus, which was perfectly healthy.

The stomach, duodenum, and jejunum, presented a healthy appearance, but the mucous coat of the ilium was considerably thickened, and seemed covered with a layer of coagulable lymph of a greenish colour: and I was led to suppose this idea correct, as the valvulæ conniventes were firmly agglutinated, and their extremities thickly coated with the same substance.

The cœcum with its appendage and a great part of the colon, exhibited the same diseased appearance, only in a greater degree, and in some parts of those intestines there was an increased state of vascularity.

The iliac and lumbar absorbent glands were enlarged, but did not partake of the primary disease, as in the cases of medullary sarcoma, related by Mr. Abernethy.

The pericardium and heart were healthy; the lungs were studded in their substance with small tumours, similar to those in the liver, and there were many immediately beneath the pleura pulmonalis; and one of the lobes on the left side was loaded with blood and mucus.

On reflecting the integuments of the cranium, another tumour was perceived on its vertex, beneath the pericranium, which had never been noticed during the patient's life; it had affected the bone only in a slight degree.

On removing the skull-cap, a similar tumour was found on the dura mater, under the occipital bone; it had caused absorption of the surface of the bone, so as to expose the diploe. No deviation from the natural appearances was noticed in the brain, except that the ventricles continued rather more fluid than usual.

The testicles were perfectly healthy.

History of a Case of Remitting Ophthalmia, and its successful Treatment by Opium. By JAMES CURRY, M. D. F. A. S. &c. and senior physician to Guy's hospital.

[From the London Medico-Chirurgical Transactions for 1812.]

IN the earlier period of life, my eyes were remarkably strong; and the power of vision very complete, both as to distant and to minute objects. The first injury they sustained, was during my stay at Edinburgh, and that owing to the practice of reading to very late hours in the night, without using the protection of a shade to keep off the direct light of

the candles, or a screen to intercept the constant glare of a blazing coal-fire. Still, the only effect of this, was simply fatigue of the eyes; from which they would probably have recovered entirely, by mere rest. But having imprudently exposed myself upon one occasion, by getting out of bed, and standing for some minutes subjected to the night air at an open window, in consequence of a quarrel in the street, I was attacked, in a day or two after, with acute ophthalmia in the left eye; which, however, was in a great measure removed, in about a week, by the application of leeches, and the use of saline purgatives. A slight degree of obscure vision remained from turgescence of the vessels in the fore part of the cornea; but this gradually lessened, so as, in a year after, to be scarcely perceptible to myself, and not at all to the examination of another. A subsequent residence of eight months in Bengal, during which I suffered no less than five attacks of severe illness, in the different endemic forms of intermitting and remitting fevers, &c. not only radically impaired my general constitution, but laid the foundation of that particular weakened state of eyes, which I have ever since laboured under; every *general* febrile attack at that time, being followed by a recurrence of ophthalmia: and even a slight relapse of intermittent, which I sustained during the short prevalence of a westerly wind immediately after doubling the Cape of Good Hope on the voyage home, was attended by the same sequela.* From the period of my return in September, 1787, my eyes gradually gained strength; and would probably have continued to do so, had it not been for an unlucky accident. During the very severe weather in January, 1789, at which time the Thames was so completely frozen as to have booths erected upon it, a heavy fall of snow was immediately succeeded by a rapid thaw; and the pipes belonging to the house in which I resided, being all choaked with ice, the snow water

* The chief mate of the ship had also a relapse of ague, but in both it was slight, and stopped after the second paroxysm by a remedy much used by the natives of India, for the cure of recent intermitting fevers.

in the leaden gutters of the roof rose so high as to get under the tiles, and made its way down through two floors, so as to come into the bed where I lay. How long I was exposed to its influence in the slow mode in which it descended, is impossible exactly to say; but when I awoke through the cold, I found the left side of my night cap, and my left shoulder and arm, with the bed clothes covering them, quite wet. After putting on a dry shirt, shifting the bed clothes, turning the feather bed, and drawing the bedstead into another part of the room, I went to sleep again; and hoped that no inconvenience would ensue, as I had more than once been similarly wetted in my cot by sea-water, without any bad consequence. In a few days, however, I was attacked with ophthalmia in my left eye, which proved more severe and obstinate than any preceding attack; confining me three weeks to the house, and nearly a week of that time to bed: even when the continued pain was abated by leeches to the cheek and temple, followed by a blister, and aided by purging, the vessels of the eye continued distended with blood; and violent pains, affecting not only the fore part of the eye, but extending all round the orbit, came on every night. Under these distressing symptoms, I consulted the late Mr. Hunter, who recommended the use of the cinchona rubra infused in lime water, which was attended by such speedy relief, that the very first night after I began its use, I was quite free from my usual paroxysm of pain, and the eye, instead of being dry and burning hot as before, now discharged tears most copiously, which felt as cold as water from a spring. By continuing this remedy for several weeks, I was enabled to go into the country and settle in business; but I was for many months distressed with inflammation of the glandulæ Meibomii, the acrid secretion from which kept the tunica adnata in a constant state of irritation, and no doubt served to fix, still more obstinately, a distinct speck which had formed exactly in the middle of the cornea, so as greatly to obscure the vision with that eye for many years after.

From the period of this attack in 1789, I continued tolerably free from ophthalmia until the summer of 1794, when I was visited by it in a still more formidable shape, about a fortnight after recovering from a smart fit of regular gout; for the pain now was not confined to the fore part of the eye, but extended into the interior, and at times darted through to the back part of the head, with such violence as to resemble what I conceive would be the effect of a pistol shot. The retina became so exquisitely sensible, that I could not bear the smallest ray of light; and I could discern every article of furniture in a room so completely darkened, that other persons were obliged to grope their way, in order to avoid the table and chairs. Being then resident in a country town (Kettering) none of the medical men would undertake to open the temporal artery, which I was urgent to have done, as I knew that under such agonizing pain I could not long retain my senses. I therefore despatched a messenger to Dr. Kerr of Northampton, who was luckily met on the road, and very kindly hastened to assist me. His opinion exactly coinciding with my own, he immediately performed the operation, and took away eight ounces of blood before I became faint; but even before half the quantity was drawn, I felt my whole head relieved as from the pressure of a vice, and the darting pains entirely subsided. From that moment, I began gradually to recover, in every respect; but the sight of that eye still remained obscure, from the former opacity of the cornea; and both eyes were at times liable to slight degrees of redness and tenderness from exposure to cold.

In the spring of 1798, I underwent great fatigue and anxiety, in attendance upon a gentleman for whom I had the highest regard; being three days and nights, without taking off my clothes, or lying down in bed more than an hour or two at a time. On the very evening when I was liberated from this exertion by the patient's death, I was seized, in a few hours after getting home, with increased dimness of sight in the left eye, followed by violent pain, which came on, with

augmented severity, in pangs that occurred just at the moment I was dropping to sleep. Having no other mode of relief at hand, I took a grain of opium with some antimonial powder, by which I at last obtained sleep, and the next morning I felt my eye almost free from pain, but with a particular sensation of tenderness upon the cornea whenever I moved the eyelid over it. As the eye was now capable of bearing the light, I examined it attentively by means of a small looking-glass, and distinctly perceived a pit or hollow in the fore part of the cornea about the sixth of an inch in breadth, nearly circular in form, and exactly corresponding with the place where the speck or opacity was formerly situated, but which now no longer appeared: in short it was evident, that the speck had inflamed, and sloughed off during the course of one night: the eye has ever since remained free from any opacity visible to another person; but the *new formed* tunica adnata has not the same fine polish as in the natural and healthy state, and consequently small objects, such as the letters in a book, viewed with that eye, appear hazy and undefined in their edges, unless I look at them through a narrow chink, so as to deflect the rays of light, and make them pass a little to one side of the scabrous part; in which way they are clear and distinct.

This detail may to some appear tedious and uninteresting; but I thought it might be satisfactory to the Society, as it certainly would be to me, to have a complete history of the rise and progress of a complaint, which subsequently displayed itself in so distinct a shape, and with such severity of symptoms as I shall now describe; being perfectly convinced, that nothing will contribute so much to enlarge our knowledge of pathology in general, as that concatenation and sequence of phænomena, which at present are often considered as distinct disorders, though in fact only variations of one genus of derangement in the human system.

On Friday the 23d of Dec. 1802, after going round the hospital, and subsequently visiting some private patients, I

returned home at three o'clock in order to dress myself for dining out; but before four o'clock, I felt so much stiffness in my *right* eye, that fearing the consequence of exposure in coming back at night, as well as drinking any wine under such threatening, I sent an apology, and determined upon staying within doors all the evening. By five o'clock the eye was become very stiff, with some degree of soreness; and so dim, that the candles appeared dull, and surrounded by an extensive halo or haze; and at eight the pain was so considerable, that I could not read. I therefore took at going to bed a grain of opium, three grains of calomel, and two of antimonial powder; afterwards drinking a basin of water gruel to promote perspiration. I passed but an indifferent night, however; and in the morning finding the eye considerably inflamed, I applied six leeches round the lower and outer part of the orbit, and took some colocynth extract, which operated two or three times with slight relief. In addition to these measures, I put some of the vinous tincture of opium (the old Tinctura Thebaica of the London Pharmacopœia, ed. 1740) into the eye several times, by means of a large camel's-hair pencil; this occasioned very pungent pain for a few seconds, and was followed by a short abatement of pain, which, however, was more comparative than real, for in a quarter of an hour after, the eye felt no better than before. At night the pain again increased, and I repeated the opium, &c. with relief, taking at the same time some liquor ammoniæ acetatæ to excite diaphoresis. The pain abated in the night, and I got some sleep; but no amendment appeared next morning in the eye, which was now still more red than before. On the third night I blistered the right temple, and repeated the opiate, calomel, and diaphoretic, without gaining any more than a temporary benefit. On the fourth day, I became extremely alarmed by the increasing obscurity of vision, which was now so great that I could not distinguish the bars of the window sash, and could barely count my fingers when held within a foot of my face; added to which, this was now not only in the *right* eye which

had never been more than slightly affected before, but a similar though less obscurity was making progress in the *left* eye also. I therefore sent immediately for an eminent surgeon-oculist, whom I will beg leave on this occasion to designate by the name of *my friend*, a name to which his kindness and attention give him a just claim. He came to me soon after, and upon examining the eyes, remarked, that there was no opacity in the cornea; a circumstance which I had noticed myself before his arrival as different from every former attack; though from the dimness of my vision, I could not ascertain this so well as he did: I cannot describe this peculiar state of vision better than by saying, that every object which I could discern appeared of a dusky gray colour as if obscured by smoke or steam; and such as I conceive would be the case, if the aqueous humour of the eye had lost its limpid transparency, and acquired the blueish gray tint, which I have noticed in some mineral waters. I held this as probably indicating an opacity of the capsule of the crystalline lens, or of the vitreous humour; and I could perceive from my friend's manner, that he had much doubt about my recovery. I then stated to him the steps that I had already taken, all of which he approved of, excepting the opium; advising me by all means to abstain from it, as it would tend to weaken the vessels of the eyes, and certainly *retard*, if not, in the end, *entirely prevent* them from regaining their natural strength. However reluctant I felt, at giving up the employment of a medicine from which I had found at least temporary relief, yet considering the disease as now altogether beyond my own management, and having the utmost reliance upon his judgment founded on long experience and extensive observation, I determined to submit to whatever measures he might think proper. As the most ready means of lessening the extremely turgid state of the vessels on the tunica adnata, he proposed scarification; which was immediately performed, by drawing down the lower eyelid, and scoring its surface in several places with the shoulder of a lancet, so as to take away about

a tea-spoonful of blood. No sensible relief attended this operation; on the contrary, the clots of blood which formed upon the incisions during the night, acted like so many foreign bodies, and aggravated the pain whenever the eyelid moved upon the ball. In addition to this, he recommended fomenting the eye with a decoction of poppy heads, which was accordingly employed, as soon as it could be got ready. I had always found ease before from cold applications; and the present trial of an opposite temperature, concurred to strengthen my former experience; for the pain became so much worse under the fomentation, that I could not continue its use above a few seconds. Observing no abatement of inflammation when he came next day, he conceived that the failure depended upon the quantity of blood evacuated, being too small to lessen the congestion: and, as a more adequate depletion, opened the vein which runs between the inner canthus of the eye, and the nose, and drew away a large tea-cupful of blood (about six ounces). During this operation, I thought my head felt lighter, and the eye less stiff and full; but the relief did not last much beyond the flowing of the blood; and the pain at night, with the redness and turgescence of the vessels next morning, were exactly the same as before. My pulse being now languid as to strength, and unaccompanied either by hardness in its stroke, or by febrile heat of skin, he did not consider farther loss of blood, either generally or topically, at all adviseable; but recommended a large blister to the head. I accordingly had my head shaved without delay, and a blistering plaster applied over the whole of the scalp, extending from one ear to another, and from the top of the forehead to the nape of the neck. Notwithstanding what might have been expected from the irritation of so extensive a surface, I certainly slept better than I had done for the three preceding nights; but this was all the advantage it procured, as the inflammation was not in the least diminished by it; and the succeeding night was attended with the same severity of pain as before. I now, agreeably to his desire, took a quarter of a grain of the muri-

ate of quicksilver, dissolved in half an ounce of the spirit of nutmeg, and diluted with half a pint of warm water-gruel sweetened to the taste. This excited most profuse sweating for several hours, and gave me greater ease than any thing which had previously been done: indeed I had observed in former and slighter attacks, that sweating always procured relief from pain, especially while the diaphoresis was present. I accordingly repeated the same medicine on the following night with very sanguine expectations but by no means with equal success, the pain being more severe although the sweating was nearly the same. The third night it failed entirely; and owing to the nutmeg spirit then employed being made by uniting the essential oil with proof spirit by triturating it with sugar, instead of distilling them together, the muriate of mercury was probably not completely dissolved; in consequence of which it occasioned considerable sickness and vomiting: observing, however, that as often as I strained to vomit, though nothing was brought up except the gruel, the pain of the eye was sensibly lessened for a short period, I conceived that fuller vomiting might be attended with still greater and more permanent benefit, and with this view got to a medicine chest which stood in the room, and guessing five grains of tartarised antimony by lifting it between my finger and thumb, I placed this in the palm of my hand, and by wetting the point of my finger, took up what I supposed might be from half a grain to a grain: I swallowed this quantity every quarter of an hour, until I became very sick, and vomited several times: after which I got ease and fell asleep. Next day, the eye appeared exactly as before; and feeling great debility, and loss of appetite, I did not recur either to the sweating or the vomiting plan. The nocturnal exacerbation of pain having now become greatly aggravated, as well as more distinctly marked in its remitting form, I had recourse to the cinchona, from which I had formerly experienced such remarkable advantage; but although taken in the same way, and in doses of a drachm every four hours, it produced no sensible effect. One

article still remained, which is known to possess extraordinary powers in the cure of intermitting fever, even where the Peruvian bark has failed; I mean the arsenical solution. This, therefore, I had recourse to, in doses of ten drops three times a day; but after two days' trial, it occasioned such loss of appetite and of general strength, without any perceptible advantage to counterbalance these effects, that I abandoned it as I had done the rest. I was now left in the middle of the third week, apparently without any resource; my sight being only capable of distinguishing between day and night; the flame of the candles upon the table appearing like two drops of blood, and the fire, when burning bright, like a mass of red-hot iron, whilst all around was utter darkness: in addition to which, the paroxysms of pain through the night could only be compared to screwing the eyeball out of the socket; and the only ease I had from this, was by sitting up in bed, with a wash-hand-basin of cold water placed between my knees, and dipping a towel in this, which I applied to both eyes. Just so long as the sensation of cold lasted (the ground was then covered with snow), so long was the pain rendered bearable; but as soon as the wet towel acquired a little warmth, the pangs returned as before. Worn out by suffering, and with the melancholy prospect of irremediable blindness before me, I resolved to obtain ease at all events, by having recourse to opium; and wishing to procure this more particularly in the night, when the pain was always worst, I took *two* grains of solid opium at six o'clock in the evening. I can scarcely express the delight I experienced on finding, that instead of the paroxysm coming on between seven and eight, as usual, I felt quite easy; and on going to bed at ten o'clock, got into a sound sleep, from which I awoke greatly refreshed and free from pain, at eight next morning. The next day also, was comparatively a day of ease; and it will readily be concluded, that I did not fail to take the opium again as on the preceding evening. The second night, like the first, was *a night of bliss*, which was perhaps the more apparent, by my not sleeping at all, but lying *in perfect ease*.

On the following morning, my friend called, after an absence of two days (for indeed I believe the obstinacy of my case had put his kind attention to a severe trial by previous daily attendance); and it was with unspeakable pleasure, I heard him pronounce my eyes considerably better. I then candidly stated to him, that the severity of my sufferings had compelled me to disobey his injunctions against taking opium; and that, as I had left off every other medicine except the occasional use of colocynth pill with calomel, as a laxative, I could only attribute the amendment to the effect of that remedy. Under such circumstances, he admitted, that I should continue its use; observing, however, that there was either something very singular in the nature of the case, or that opium was peculiarly friendly to *my* constitution. Notwithstanding the strong proofs which I already had of its beneficial influence, I was by no means free from fears, that in thus procuring temporary relief, I might not ultimately do injury to my eyes; and believing that I had now in my power the means of effectually checking the farther progress of the disorder, I was determined to maintain my professional allegiance, by abstaining from opium until it became imperiously necessary. Accordingly, on the third evening I did not take my dose as before at six o'clock, but waited the coming on of the paroxysm; and though not without some anxiety, yet certainly with greater hope, that I might either escape the attack altogether, or have it in a very mild and bearable degree. At eight o'clock, I observed the usual precursor, a feeling of soreness, aggravated by pressure, in the integuments round the eye, and especially at the *infra* and *super-orbitary* holes, through which the nerves pass to supply these parts. In twenty minutes the pain became very severe, and I immediately swallowed two grains of opium. At nine o'clock the pain, instead of abating, was evidently upon the increase; I therefore repeated the dose; and having remarked that the full effect of any individual dose of this medicine is generally experienced in three quarters of an hour from the time of taking it, I determined to re-

peat the same quantity *every hour* at farthest, until relief ensued; and as no sensible abatement took place from what was previously administered, I persevered at the assigned intervals, until I had swallowed *ten grains* of solid opium, without the smallest alleviation of my sufferings. At twelve o'clock, I became stupid to every sensation, except that of agony; and retired to bed in a state which can better be conceived than described; nor do I exaggerate the description of my wretchedness when I declare, that I should have blessed the friendly hand which presented a pistol to terminate my existence. For *fourteen hours and a half*, I lay in this struggle between stupefaction and torture; the muscles of the right side of the face quivering with pain as if torn from the bone, and a continued stream of scalding tears running down the cheek, whilst the eye-ball itself was, at intervals of only a few seconds, affected with a convulsion that made every limb shake with the agony. At half past eleven o'clock in the forenoon, the power of suffering was itself worn out, and from that time till five in the evening, I lay in a state which alarmed the people in whose house I lodged, as I neither called for nourishment, nor even rang the bell to say I wanted assistance of any kind. My conviction, so dearly purchased, was now complete; and I resolved, whatever might be the ultimate event, never to pass such another night, whilst I had the certainty of relief within my power. Accordingly, at six in the evening, I took *three* grains of opium, with the same happy effects as at first; and by repeating this every evening at the same hour, I not only completely prevented all recurrence of pain, but in the course of ten days, was able to go out daily in a carriage to visit a patient at Canonbury; and at the end of three weeks, resumed my hospital business and lectures as before my attack.

The case just related, offers grounds for much new and interesting inquiry respecting ophthalmia in general, and particularly that form of it which has committed such ravages among those of our soldiers and seamen who were employed

in the expedition to Egypt: as I was strongly inclined to believe, that they bore a considerable resemblance to each other in many essential points. At present, however, I have no leisure for so extensive an investigation; and were I even so disposed, I have not had sufficient opportunities of seeing the Egyptian ophthalmia, as it has been prolonged or propagated in this country, to qualify me for such an undertaking.

One circumstance has surprised me greatly, which is, that in the course of a pretty extensive examination of authors, both ancient and modern, which I have been obliged to go through in order to collect materials for my lectures, I have not met any case resembling my own. Does this proceed from its being unique in its kind, or from want of due discrimination in those who have treated on ophthalmia, especially in its epidemic form? However reluctant to admit the latter conclusion, yet I am compelled to do so when I affirm, that notwithstanding the almost exclusive treatment of such complaints by the oculist, and the consequent infrequency of their coming under the cognizance of the physician, I have myself met with several of the same kind; and, therefore, reasonably presume, that I am not the only person to whom they have occurred. Being hereditarily of a gouty constitution, and having had to the amount of six or seven severe and regular attacks, beside many slighter and irregular ones, it might be imagined, especially as gouty ophthalmia is mentioned by a few authors, that mine was of that description; and such indeed was the opinion of the friend who attended me; as he acknowledged, that on no other ground could he account for the disorder giving way to opium, while it resisted every mode of treatment which he had before found successful. At first I was disposed to admit this reasoning; but from subsequent attention to the disease, as it has occurred both in myself and in others, I am satisfied that it is not correct: for three of the cases which I have seen besides my own, were in females, who are well known to be very rarely the subjects of gout, comparatively with men; and in no gouty attack which I have

ever had in the inflammatory form, did I ever receive any considerable relief from opium. The *progress*, likewise, of the two forms of disorder is very different; for I have had gouty paroxysms of various intermediate duration between ten days and six weeks, whereas the ophthalmia, in three distinct attacks posterior to the one related above, has regularly assumed the febrile period of *three weeks*, so markedly so indeed, that in three of a milder degree which occurred in 1806, 1810, and 1811, although by the use of opium I kept the disease so completely in check, as not to be confined from my business a single day, yet it ran its usual period. But a very curious circumstance yet remains to be mentioned, which will, perhaps, of itself be sufficient to disprove the alleged gouty nature of my ophthalmia in 1802-3. It must be remembered by most of the members of this Society, that the month of January, 1803, was that in which a very violent, and in many instances fatal, catarrhal pneumonia prevailed in London and its environs particularly, but I believe also, though in a less degree, in every part of England. The same disease had previously appeared in some part of Germany, whence it spread to Paris, where it raged with unusual violence under the name of *la gripe;* and it had begun to decline at Paris, about the time it arrived at its greatest height in London. From the date of the memorable influenza of 1782, which was perhaps the most universal ever recorded (having traversed the earth in a westerly direction, from the Tartar hordes contiguous to the Great Wall of China, and finally spent itself in the West India Islands and America), I had never escaped an epidemic catarrh in its ordinary form, until this time. My escape on this occasion may indeed be accounted for, upon a principle which, though not universal, is yet so general as to be admitted among the laws of the human constitution, viz. that one disease supersedes, or prevents another of an analogous nature, from taking place at the *same time;* and it will readily be granted, that my constitution was sufficiently occupied by one kind of suffering, to entitle me to an immunity from any other

as long as the first continued. But will this, as applied to my case, explain why the same freedom from catarrh should equally attend *many other* persons who were affected with ophthalmia about the same time as myself, although in so trifling a degree, as scarcely to confine them to the house? Mr. Stocker, Apothecary to Guy's Hospital, and several of his family, had slight ophthalmia during the prevalence of the influenza; but not one so affected had any attack of catarrh. A person who came to me on business during my convalescence, observing that I wore a shade and green spectacles, told me that he had been himself a sufferer, about three weeks before, with the same complaint in his eyes, as had many of his neighbours, and of his workmen; and upon inquiring whether he or they had also the influenza, he said it had been remarked by all as surprising, that they escaped the epidemic cold. During the summer of 1803, I met Sir James Fellowes, who had lately before returned from Paris, where he was during the whole time that *la gripe* prevailed; and upon mentioning to him the singular connexion between it and ophthalmia in London, he informed me, that a similar coincidence was noticed in France, with this unaccountable difference however, that *there* the catarrhal pneumonia *preceded* the ophthalmia; but that the immunity was the same in both places; no person who had laboured under *la gripe* being known to suffer afterwards from inflammation of the eyes: Dr. M'Donnell, of Orchard Street, Portman Square, who was likewise in Paris at the period referred to, confirmed by his testimony the information of Sir J. Fellowes, both as to the *order* in which the two forms of complaint took place, and to the exemption which each of them afforded against the other.

The evidence which I have here adduced, will perhaps be deemed by the Society quite sufficient to decide the question in the negative, as to the alleged gouty nature of the ophthalmia; but whatever doubt might remain on that point, it must be entirely done away by the account I shall now give of my last attack, which I watched most minutely through its

several stages, with a view to place this circumstance beyond controversy in future.

In the latter end of March 1812, I had a smart fit of gout, the violence of which was greatly mitigated by taking two half bottles of the eau medicinale at the distance of four days, so that I was enabled to go about, though still with inflammation, swelling and pain; and at the end of a month from the commencement, the symptoms spontaneously ceased, leaving me in better general health than I had been for a considerable time. During the latter part of May, though able to walk very well, I was prevented by the coldness and wetness of the weather, from taking any exercise on foot, which is the only kind that is either pleasant or beneficial to me. On Monday the fourth of May, the weather became suddenly much finer than it had been for many weeks, and I determined to avail myself of the change, by dismissing my carriage in Oxford Street about three o'clock, and doing the remainder of my business on foot. The sky was perfectly free from clouds, and the sun considerably hot; but the wind was easterly, and had a bleak chillness in it, which made the alternate sensations of heat and cold, accordingly as I was in the sunshine or shade, peculiarly unpleasant. In passing along Fleet Street on my return home, about five o'clock, I felt suddenly a painful sensation in the lower part of my right eye, exactly as if a person had forcibly thrust the end of his finger against the under eyelid; and as this took place not only without any obvious cause, but as the dull pain continued, though in a less degree, during the remainder of the evening, I had no doubt but it was a prelude to a severe attack of ophthalmia. As soon as I could examine the eye, I found my alarm was but too well grounded, for there appeared a stream, as it were, of red vessels running from the lower part of the eyeball to the edge of the cornea, exactly at that part where I had felt the pain at first. I lost no time in taking two grains of opium, which procured me a very good night; and as the eye was scarcely at all painful, and had become but very little redder when I looked

at it again the next morning, I flattered myself that I should escape without much inconvenience. When the evening came, however, this hope was done away, as the pain recurred, and compelled me to take three grains of opium to get relief. The following morning the eye was very red, and the sight so obscure, that I could scarcely read a letter. As the treatment differed in no respect from that which I have already detailed, it is unnecessary to repeat it here; suffice it to say, that by pursuing the same plan now, I was not kept within doors more than three days, and these not in succession; for after staying at home on Thursday and Friday, I felt so much better on Saturday that I made a number of visits, and in the evening sent to apprize my friend Dr. Babington, who was lecturing for me, that I should resume my hospital duties on the Monday. Very early on Sunday morning, however, the pain came on with great violence, so much so indeed, that it required six grains of opium taken within the first hour, to render it bearable; and eight grains more, at different periods through that day, to keep it off. In the course of the succeeding week the inflammation abated, and a *second* time did I, at the distance of seven days, announce my intention of returning to lecture; but a *second* time was I disappointed, by the vessels of the eye becoming still more distended, though not more painful than before; and the vision with that eye being as much obscured as in the attack of 1802-3. At the end of the *third* week the pain ceased entirely, and the redness abated so fast, that in four days more I returned to the discharge of my several duties as before my attack.

The complaint, in this instance, differed from that of 1802-3 in two particulars, viz. that the *diurnal* exacerbation of pain was not so great as it was then, whilst the septenary or *hebdomadal* stages were much more distinct; in which respect the first partook more of the intermitting, the latter more of the continued febrile type.

Account of the Muscles of the Ureters; and their effects in the irritable states of the Bladder, by CHARLES BELL, Esq. F. R. S. Ed. Teacher of Anatomy in Great Windmill street.

[From the Medico-Chirurgical Transactions, for 1812.]

I AM about to describe a set of muscles which seem not to have been observed by former anatomists. They are attached to the orifices of the ureters, and are seated in the bladder. In health they are the instruments of a very peculiar organic action, and in disease the cause of most distressing complaints.

Before I proceed to describe the anatomy of this part of the bladder, the subject seems to require, that I should give a short historical review of the opinions repecting it.

Of the parts hitherto described as seated at the neck of the bladder—La trigone de la vessie—La Luette—Uvula Vesicæ—Corpora carnosa Morgagni.—Third lobe of the prostate, &c. &c.

In the plates of *De Graaff* there are represented certain folds extending forward from the orifices of the ureters, where they terminate in the cavity of the bladder; and at the lower part of the orifice of the bladder, there is a tubercle faintly indicated. The same appearance is represented by *Bidloo*. In *Santorini* also the natural appearance of these parts is accurately delineated. *Morgagni* expresses himself to this purpose: "at the points where the ureters terminate in the bladder, there arises from each of them a thick round compact fleshy body, which takes a direction towards the orifice of the bladder. These two bodies having proceeded a little way, are united, and proceed forward, terminating in the *caput gallinaceum*.*"

* See Morgagni Adversaria I. n. 9. Adversaria III. Animadver. XLII.

*Santorini** gives the same description of these parts as Morgagni has delivered.

Lieutaud describes these bodies under the term *la trigone de la vessie.* The learned Portal is incorrect in saying that Lieutaud was the first anatomist who has given their description.

Portal has thus described the *trigone:* at the lower part, the internal tunic of the bladder adheres to a triangular body of a cartilaginous hardness, and this body is always prominent in the cavity of the bladder, especially in old men. He proceeds to say, that, at the extremity of the triangle, backwards, the orifices of the ureters open; and at their anterior extremity, there is an eminence slightly protuberant, to which Lieutaud has given the name of *luette.*

This account leads me again to refer to the plate of the excellent anatomist *Dominico Santorini.* In his second table the luette and trigone are accurately represented.

He has the following explanation on the letter I. "Vesicæ urinæ osculum cui prominulum corpus præfigitur; quod in affectis vesicæ sic prominet aliquando ut urinæ iter prorsus intercludat." This refers to the disease with which Mr. Hunter and Mr. Home have made us familiar.

The expression of Santorini recalls us again to the remark of Portal: he says, "I have found in old men who have suffered retention of urine, the *trigone de la vessie* so enlarged, especially its tubercle, in the form of an uvula (luette) that the orifice of the bladder was shut by it†."

Sabatier follows his countryman in his description of this part of the bladder, but adds; "the *trigone* and *luette* are the most sensible parts of the bladder; which is the cause why a stone lodging here produces extreme irritation, while if it lodges in any other part of the cavity of the bladder, it causes little inconvenience:" he adds, "the uvula (*luette,*) which terminates the anterior angle is very subject to swell, and then

* In the Observationes anatomicæ, cap. x. sec. xxi.

† Portal, Cours d'Anatomie Med. T. v. p. 409.

it rises in the form of a round tumour which fills the neck of the bladder, and opposes itself to the flow of urine."*

Desault, speaking of the tumours which grow in the bladder, has this expression. "Le sommet de ce viscère n'en est pas plus exempt que son basfond; mais ce sont particulièrement ceux qui croissent près de son col, et que quelques auteurs ont pris pour un gonflement de la luette vesicale, qui occasionnent la retention d'urine."

This sentence, which betrays the imperfect knowledge which Desault had of the disease, is followed by other unequivocal marks of unconfirmed principles and practice: and the whole chapter stands in remarkable contrast with the publication of Mr. Home, in this country.

In Haller's *Element. Physiolog.*† we have a description following that of Morgagni under the title *colliculi ab uteribus in urethram producti.*

These authorities discussed, we come now to the more modern observation of Mr. Hunter.

Mr. Hunter‡ has described a small portion of the prostate gland which lies behind the very beginning of the urethra; and this he describes as subject to swell out like a point into the cavity of the bladder, where it acts like a valve on the mouth of the urethra. This can be seen even when the swelling is not considerable, by looking upon the mouth of the urethra from the cavity of the bladder.

It is impossible to mistake this; the swelling he describes is the *uvula vesicæ* or *luette* of Lieutaud. The observations of Mr. Hunter, then, go to inform us, that this tumour is of that part of the prostate gland which is below the urethra, and betwixt the lateral portions of the gland.

This discovery carries us back to the great anatomists in whose works we find the elements of all our present knowledge. Morgagni has very fully described the part of the

* See also Lieutaud, Hist. Anatomic. medica. tumores vesicæ adnati.

† T. v. p. 328. ‡ P. 170.

prostate gland which Mr. Hunter mentions, and which he discovered to be the seat of this dangerous malady. Morgagni thus describes it:

" Quod si vera ulla propago prostatæ addenda est, ea certe est subrotunda et renitens quasi glandula, quam cum sœpe diligentissimus incisor noster in publicis dissectionibus animadvertisset inter vesicam, et seminales capsulas qua sese mutuo hæ jam contingunt, prominentem et nonnunquam ad angulum conveniendo, efficiunt, prostantem nos accurato instituto examine nihil aliud esse comperimus quam corporis ipsius prostatæ particulam."*

In addition to the description of Morgagni we have the authority of Sabatier. " Sometimes," says he, " only that part of the prostate is diseased to which they have given the name of *luette vesicale*. I have seen several occasions (he continues) in which the uvula forms a tumour with a narrow peduncle: this, moving with a stream of urine, closed the opening of the bladder."†

Anatomy of the Neck of the Bladder.

I have now to lay before the society the anatomy of the neck of the bladder in man.

On dissecting up the inner coat of the bladder, there are seen two strong fleshy columns, which descend from the orifices of the ureters towards the orifice of the bladder: they unite and run towards the prostate gland. On the surface, towards the cavity of the bladder, they are denser by the union of the inner coat of the bladder, but they are fibrous, and this fibrous structure is made manifest by dissection from below. They are larger and firmer, but of the same colour and structure with the fleshy columns of the *detrusor urinæ*. The variety which we find in their length according with the degree of contraction of the bladder, proves their muscularity.

* Morgagni, adversaria anat. IV. animad. XV.

† Med. Operat. T. II. p. 72.

Whatever excites the action of the bladder increases the size of these muscles in a remarkable degree, and they always acquire a great increase of power and size when the muscular coat of the bladder becomes more distinct and powerful. In some of my specimens of diseased bladder, I find the cause of this to be stone in the bladder; in others, an ulcer; in many, stricture; but always irritation and the necessity of continual action of the bladder are attended with an enlargement of the muscles of the ureters.

When contracted, the course of these columns is distinguishable all the way from the mouths of the ureters to the beginning of the urethra; and there, at their union, they heave up the inner coat of the bladder, producing the appearance of a tubercle at the lower part of the orifice of the bladder.*

It is still the form of the inner coat which makes these fleshy columns appear to terminate forward in the caput gallinaceum; which they do not; they only take a firmer insertion. Where these columns unite they are most fleshy, and their fibres are more intricate; then, directing their course towards the lower and backmost part of the prostate, they degenerate into tendon, and are inserted into the portion called the third lobe of the prostate.

Although I have described the course of these muscles as proceeding from the back part forward, because it better corresponds with the first view we have of them, yet, I believe it is more correct to consider their connection with the prostate gland as the fixed point, and their connexion with the extremities of the ureters as their insertion.

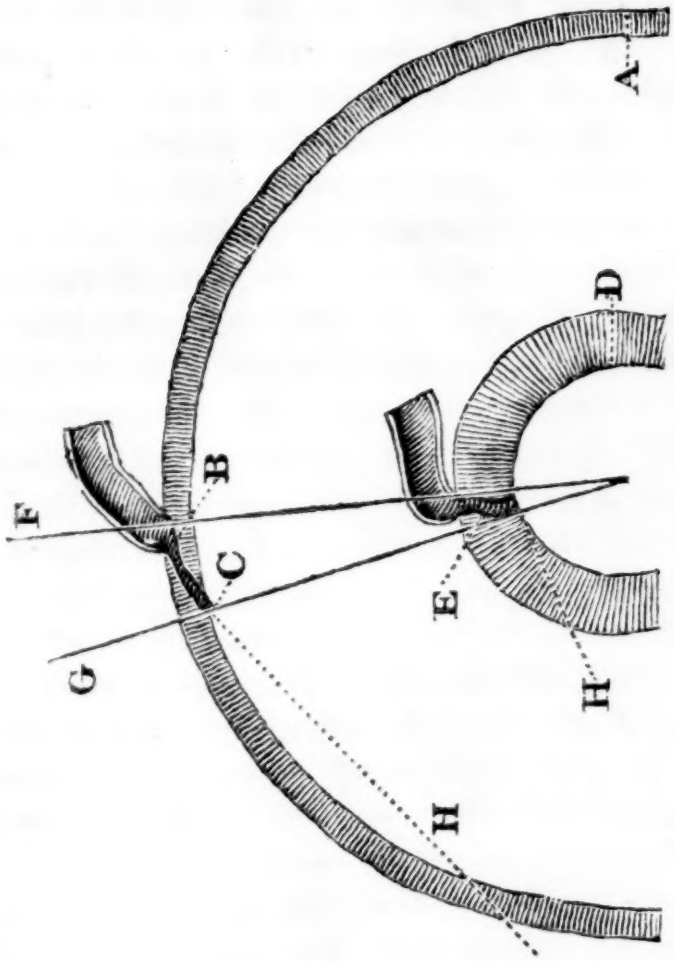
Use.—The use of these muscles is, to assist in the contraction of the bladder, and at the same time to close and support the mouths of the ureters. The surface of the bladder where it covers their union on the inside, is endowed with an ex-

* It is this appearance, presented by the muscles in a state of contraction, which has led so many of our best authorities to confound it with the disease of the third lobe of the prostate gland.

quisite sensibility, which is a provision of nature, for their ready and instantaneous action on the stimulus to pass the urine. It is here that is seated that sensibility which produces the natural call to urine, and here also is the seat of diseased irritations.

It will be observed that the orifices of the ureters are not closed by the contraction of the muscular fibres around them. They are defended against the return of the urine by the obliquity of their passage through the coats of the bladder. It is well known that the extremity of the ureter enters through the coats of the bladders obliquely, and that in consequence of this, there is a valvular action in the coats of the bladder which prevents the regurgitation of the urine into the ducts of the kidney.

But if we look to the adjoining diagram, and consider the subject, we shall find, that in proportion as the bladder contracts, this obliquity must be diminished; and further, if we reflect that the coat which contracts is on the outside of the oblique passage of the ureter, we shall conclude, that without some counteracting power on the inside of the bladder to draw down the orifice of the ureter, the obliquity of the passage would be lost. These muscles, which I have now described, guard the orifices of the ureters by preserving the obliquity of the passage, and by pulling down the extremities of the ureters according to the degree of the contraction of the bladder generally.



Explanation of the Diagram.

Let A. represent the circle of the dilated bladder.

B. The *ureter* or duct of the kidney entering the coats of the bladder.

C. The extremity of the duct opening on the inside of the bladder.

B. C. mark the oblique course of the *ureter* through the coats of the bladder.

Let D. represent the contracted bladder, thickened at the same time by its contractions.

E. The *ureter* passing through the coats.

The lines F. G. drawn from the centre of the circle will intersect corresponding portions of both circles, and demonstrate how the oblique passage of the *ureter* through the coats of the dilated bladder becomes more direct in the contracted bladder.

The muscles described act in the direction of the line H. and its operation is to draw down the orifice of the *ureter* C. in proportion as the bladder contracts; by which means the obliquity of the passage is preserved.

The membrane which covers these muscles is the seat of that sense which calls the muscular coat of the bladder into action. Of this we may be sensible in passing the bougie, and still more in passing the urethra sound. As the instrument is passed down the urethra, there is a sickening sensation; as it passes the caput gallinaceum, the nature of the pain is changed; and, lastly, in passing it over the surface of the triangular elevation, produced by these muscles, there is experienced the familiar sensation of the call to pass urine. If it were doubted that here, in a particular manner, is seated that sensibility, which calls the bladder into action, the effect of a stone falling upon the part is sufficient proof. When a patient has a stone in the bladder, there is pain and excitement while it rests in this place, and relief when it lodges elsewhere. The reason why this part is possessed of such sensibility, I apprehend to be, that the muscles of the ureters may, as it were, be the first alarmed, in order to guard the mouth of the ureters, and preserve their obliquity during the action of the bladder.

Action in Disease.

When the sensibility in the seat of these muscles is increased by disease, and the increased sensibility is accompanied with a continual action of the muscles, the prostate gland must suffer unusual excitement. The natural prominence formed by the muscles being directly over the third lobe of the prostate, and their chief attachment being also to this third lobe, we may perceive how it happens that this part is sometimes enlarged without the body of the prostate gland partaking much in the disease. When there is an unusual *nisus* of the bladder, these muscles are the seat of it; and as their united extremities are attached to the lower and middle portion of the prostate gland, they must, I think, promote the growth of this portion in a direction towards the cavity of the bladder. This will produce the true *uvula vesicæ*, the pendulous tumour in the neck of the bladder resembling the uvula of the palate.

This tumour hangs into the cavity of the bladder, and falls like a valve upon the orifice of the bladder, proving a most troublesome and dangerous obstruction to the urine.

But whilst I state this as an opinion, drawn from the consideration of the parts in their natural state, I must also submit the naked facts. I have, in my collection, two specimens of the disease of the third lobe of the prostate, where these muscles are remarkably strong. I have, on the other hand, some specimens of diseased bladder, where the muscles of the ureters are enlarged; and only in one of these is there a beginning enlargement of the middle lobe of the prostate gland.

I have many specimens of bone distorted by the action of the muscles; and many, where, at the attachments of the tendons, the bones are drawn out into spines and tubercles. We may say, such is the effect of the muscles; but though the growth of such spines or tubercles be the effect of the action of the muscles directly, yet these spines will not be formed, unless when the bones are at the same time suffering from disease. So, in considering the action of the muscles of the ureters as influencing the growth of the prostate in a particular direction, I do not imagine that the muscles will do this merely by their mechanical effect. There must be also a disposition to disease in the prostate; and if disease be not present, the irritation of the bladder will continue even till the death of the patient, without affecting the growth of the gland.

On the extremities of the ureters, in the diseased action of the bladder, the contraction of these muscles is converted from a salutary influence, to one which aggravates disease. They still close the mouths of the ureters during the action of the bladder; and the action continuing, they cause an accumulation in the ureters and pelvis of the kidney, and influence the kidney itself: thus increasing the extent of the local disorder, and consequently its influence on the constitution.

Such consequences as arise from the irritation and action of these muscles, are to be relieved by removing the cause,

by assuaging the sensibility of the surface of the tubercle, and by drawing off the urine. When we know that this spot, on the lower part of the orifice of the bladder, is the seat of that irritability which is so distressing, we see that it is practicable to effect it by the use of the bougie. By the introduction of the catheter, the urine is let off without hindrance from the valve: the distressing excitement of the muscles is not perpetuated, and the prostate subsides from its irritation.

This practice, though a direct deduction from the examination I have made, is no more than the advice given to us by the best authors.

Thus we see that a small tubercle was painted by De Graff, and described by others, but the nature and origin of the tubercle was misconceived. Anatomists were calling it *uvula vesicæ*, as if that natural prominence was the same with the *tumour* of this part of the bladder. We find that the disease called *uvula vesicæ*, is no more than that occasioned by the enlargement of the third lobe of the prostate gland. To Mr. Hunter and Mr. Home, we are indebted for a full knowledge of the nature of this disease. It has been objected to Mr. Home, that he is in vain making that important, which the great anatomists of all ages have failed to discover, or have neglected to notice. I have shown that the third lobe of the prostate was known to Morgagni, and that it was a subject of discussion in his day. We have sufficient evidence (even on this very subject) of the difference of a fact being noticed in the elaborate works of Morgagni, and of its being familiarly and practically known to surgeons. The third lobe of the prostate was quite forgotten, the consequence was that we were ignorant of the nature of the most fatal disease of the bladder. It would be disingenuously reserving the circumstance, which drew me to attend to this subject, were I to omit the mention of the late work of Mr. Home, or rather his original paper on the anatomy of the prostate gland. I acknowledge both the merit and the necessity of what he has written: for the observation of Morgagni, and the hint of

Sabatier, were forgotten both here and in France, until the subject was distinctly and practically brought forward by Mr. Home. Even the latest French author, Richerand,* still speaks of the enlargement of the anterior angle of the "*trigone vesicale*," and the growth of *fungosities* near the neck of the bladder obstructing the course of the urine.

It still remained to be explained, why the small part of the prostate gland, the third lobe of Mr. Home, should be so frequently enlarged, without the affection of the body generally being apparent, or why this part should enlarge more rapidly than the rest of the gland. It was in the prosecution of this inquiry, that I discovered the muscles of the ureters; and after ascertaining their nature, I saw through the obscurities of authors, in treating of the diseases of this part of the bladder; so that, in speaking of the enlargement of the anterior extremity of a natural tubercle, they were deceived; and that, in treating of the *uvula*, they were describing the diseased prostate gland.

History of a Case of Anæsthesia, by John Yelloly, M. D. Physician to the London Hospital.

[From the Medico-Chirurgical Transactions, for 1812.]

The following case exhibits an example of the loss of sensation in the upper and lower extremities, independent of paralysis: and as some of the particulars are curious, and the occurrence of such a complaint is exceedingly rare, I have drawn up an account of it for the use of the society.

I. S. aged 58 years, a native of Scotland, resided for many years in Jamaica as a planter; and with the exception of being now and then bilious (to use his own term) he enjoyed, during the whole of this period, very good health. About three years

* Nosographie Chirurgicale, ii^e^. ed. p. 458.

by assuaging the sensibility of the surface of the tubercle, and by drawing off the urine. When we know that this spot, on the lower part of the orifice of the bladder, is the seat of that irritability which is so distressing, we see that it is practicable to effect it by the use of the bougie. By the introduction of the catheter, the urine is let off without hindrance from the valve: the distressing excitement of the muscles is not perpetuated, and the prostate subsides from its irritation.

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* Nosographie Chirurgicale, ii^e. ed. p. 458.

ago, after being much heated and fatigued in his attendance, as one of the grand jury in Kingston, in very sultry weather, he went to bed with the window open. On awaking in the morning, he found his feet and ancles perfectly numb, but without any sensation of pain, and without the muscular power being at all affected. Soon afterwards, he felt a numbness, with a tingling pain in his little finger, such as occurs in a part which is said to be asleep; and, by degrees, finger after finger became affected, until the whole of both hands was in a considerable degree insensible. He never had any pain or giddiness in the head, nor was he ever affected with the dry colic, which so often gives rise to paralytic affections in the West Indies.

A physician of eminence in Jamaica confidently assured him, that his complaints originated from scurvy in some lurking form or other; but it does not appear that Mr. S. ever had the least appearance of cuticular affection, till about twelve months after the occurrence of the numbness, when some red pimples showed themselves in his legs, on his lying down on the ground, after being much heated by walking up a steep hill.

He arrived in this country on the 20th of July last; and from the time of my first seeing him, (which was on the 25th of October) till now, he had been as nearly as possible in the same state, except that his appetite and digestive powers, which were then a good deal affected, have been for some time past much improved.

The following are the principal circumstances which I have had occasion to observe relative to this case.

The hands, up to the wrists, and the feet, half way up the leg, are perfectly insensible to any species of injury, as cutting, pinching, scratching, or burning. The insensibility, however, does not suddenly terminate; but it exists to a certain degree, nearly up to the elbow, and for some distance above the knee. He accidentally put one of his feet, some time ago, into boiling water, but was no otherwise aware of the high

temperature, than by finding the whole surface a complete blister on removing it. No species of injury to a vesicated part, of either hands or feet, is felt by him. The extremities are insensible to electrical sparks taken in every variety of mode. The cubital nerve where it passes the elbow communicates the sensation produced by pressure or a blow only half-way down the fore-arm.* He perspires much in the left side, just above the hip, but no where else. He is generally rather chilly, and the extremities are cold, except when he is in a comfortable room; and in this case they are of the usual temperature of the body. The thermometer however rises to 101° in the mouth. The hands are of somewhat a purple hue. If he wishes to ascertain the temperature of any body, he is under the necessity of putting it to his face or neck, or the upper part of his arm. His skin seems to be more than usually sensible to the effects of heat. On putting his hand, at the desire of a friend, into a pail of hot grains, which his friend assured him were not too hot, and to convince him of this, previously thrust his hand and arm into it, there was a very extensive vesication produced. His hands are never free from blisters, which he gets by inadvertently putting them too near the fire; and he has met with several severe burns, without being aware of it. No degree of pressure is felt by him; but a blow produces a slight degree of tingling. He has a general uneasy sensation in the extremities, which warmth rather relieves. His skin, in general, heals very readily, after being burnt or scalded in the most severe way; and there is no fever, nor is there, as far as he has been able to determine, any increased heat or throbbing during the process of healing. This

* I have remarked in some cases of paralysis from Colica Pictorum, that this nerve has its sensibility very much diminished; and in the case of a bricklayer, in whom there was a total loss of power, and in a considerable degree of sensation in both of the fore-arms and hands, from sudden exposure to cold, after working in a very hot furnace, the cubital nerve was totally insensible to any degree of pressure or force applied to it. It is probable that a similar insensibility might have been found to exist in other nerves, had they been accessible.

seems to be also the case with some other parts of his body which are not altogether insensible; for a little time ago, he got burnt in the front of the patella, and though there was a considerable slough separated in consequence, he suffered no pain, and little inconvenience during the cure.

If the heat to which the insensible parts are exposed is moderate, vesication is not immediately produced. The part becomes red, and in a few minutes, but sometimes not till the lapse of an hour or two, is blistered. That a smaller than ordinary temperature produces vesication in this individual, seems to be ascertained by the circumstance, that exposure to the heat of a common fire gave rise to a blister in the knee, which was followed by the slough abovementioned, though the clothes which covered the part, were not at all injured. Immersion in water at 120° produces no change in the affected parts; but exposure to the same temperature at a common fire, speedily blisters. That degree of heat, is, as far as I can judge by myself, about the utmost which can be long borne by the hand, in ordinary circumstances, without pain.

Cold water and warm water of every temperature invariably appear lukewarm to him. Water at the freezing point produces no degree of sensation whatever; but when his hand is kept in it for some time, he feels a slight coldness at the end of the thumb. After his hand had been immersed in water of the common temperature, and was introduced into water of 32°, he had some sensation of warmth. The cold produced by means of a mixture of snow or ice, and salt, communicates no sensation except a slight chilliness in the thumb, and when this freezing mixture follows the use of water of the common temperature, it produces a slight degree of warmth. A solid body produces no sensation, whatever its temperature may be.

The power of motion exists in the muscles of both hands and feet. With the former he can grasp pretty firmly; but in holding any thing he is apt to drop it, if his attention is at all called away. There has been of late a slight loss of substance in the hands.

He can lift a chair, but cannot raise himself from the ground, by taking hold of any thing placed above him. The susceptibility of impression, generally, as well as the muscular power, seem to be in this individual in some degree diminished.

The functions are natural, and the pulse regular and moderate.*

In the treatment of these symptoms, no advantage has been derived from any plan which I have myself adopted, or which has been employed by others. The warm bath, electricity, galvanism, tonics, the rhus toxicodendron, and mercury, given both with a view to its action on the bowels, and the system at large, have been equally unavailing; though it must be owned, that the patient has never shown a sufficient degree of perseverance in the prosecution of any means which have been adopted for his relief.

The possession of voluntary power over the muscles of the hands and feet, which do not derive their origin above the part where sensibility commenced, might seem to be incompatible with a total loss of sensibility in such muscles; and it might therefore be imagined, and with some appearance of truth, that the insensibility was confined to the integuments. From the observations which I had frequently made upon this case, I had no doubt, however, of the insensibility extending to the muscles themselves; but in order to ascertain this point experimentally, I requested Mr. Travers, demonstrator of anatomy at Guy's Hospital, when examining the case with me, to introduce a couching needle into the fleshy part of the thumb; having previously had the best surgical authority (with which Mr. Travers agreed) for believing, that such an injury could be inflicted without danger or material inconvenience. A lancet-shaped couching needle was accordingly thrust by him, to the depth of nine sixteenths of an inch, into the ball of the thumb, at the distance of an inch and a quarter from the middle of the dorsum of the metacarpal bone. It touched the

* In Venerem minime habilis est.

bone, and must have passed through the mass of short flexors of the thumb. Not the least degree of pain, or even of sensation, was produced by this puncture. The part was desired to be poulticed, and the wound appears to have healed by the first intention; for the poultice was considered by the patient to be quite unnecessary after the second day, and he left London, to embark for the West Indies, at Gravesend, in three or four days afterwards, without having experienced the smallest inconvenience from it. I heard from his friends, before he left the river, where he remained a few days, that he was in his usual health.

Most of the cases of anæsthesia which have been mentioned by authors, have occurred in paralysis; in which complaint the degrees in which motion and sensation are lost, are very various, and do not bear any constant or regular proportion to each other. Where the anæsthesia has been wholly, or nearly complete, it has generally been described as taking place in one side of the body, while loss of the power of motion has occurred in the other. An interesting case of this kind is given in the second volume of the Transactions of this Society.* The principal circumstances relative to it consisted in a weakness and diminution of voluntary power in the left side of the body, attended with a slight degree of numbness in its upper extremity, and a total loss of sensibility in the left side of the head, and in the right side of the body, from the neck downwards. In this case, there were some of the perversions of sensation, which I have mentioned as occurring in the present, particularly as to the feeling produced by cold water, which invariably appeared to be lukewarm.

I have met with two instances very nearly resembling that which I have now laid before the society.† The first occurs in the American Medical Repository, and is communicated in a letter from Dr. Samuel Brown, of Lexington, in Ken-

* History of a case of singular nervous affection, attended with anomalous morbid symptoms. Medico-Chirurgical Transactions, vol. II. p. 215.

† These cases I have met with since the paper was read to the Society.

tucky, to Dr. Miller, one of the editors. It is dated June 30, 1799, and is as follows.*

"Mrs. M'L. of Bairdstown, in Kentucky, aged about 40 years, has been deprived, for more than two years, of the power of sensation in her hands and feet. She is quite insensible of the effects of cutting instruments, or of burning coals applied to them. In one instance, when she was employed in shaping a piece of wood with a knife, she incautiously turned her eyes on some other object, and cut off the end of the thumb of her left hand, without perceiving the smallest sense of pain. She cannot, from her sensations, discover the least difference between a hot and a cold iron, and has frequently burnt the skin and flesh to a considerable depth, by mistaking the one for the other. These wounds and burns heal without any uncommon difficulty. Notwithstanding this total loss of sensibility, she retains the power of motion in full perfection, and pursues her domestic employments without any remarkable inconvenience. All her animal and vital functions are in a natural healthful state, and her spirits are regular, nay even cheerful. She feels no inconvenience from her complaint, except a sense of fulness in the veins, which she ascribes to the slow circulation of blood in the extremities. As the sense of touch however is entirely lost, she finds it difficult to retain substances in her hands without looking at them, as it is by sight, chiefly, that she regulates the degree of muscular contraction necessary to their retention. On turning her eyes aside, she often drops glasses, plates, &c. which she holds in safety as long as she looks at them. A variety of remedies had been tried without any effect. I was desirous of witnessing the effects of electricity. Although it produced very considerable contractions in the muscles of her arms, down to her wrists, the effects of it on her hands were scarcely perceptible. After two or three days however, she imagined that she was

* Medical Repository and Review of American Publications on Medicine, Surgery, and the auxiliary branches of Philosophy, vol. IV. p. 225.

sensible of some kind of sensation from strong shocks, and was therefore advised to continue the application of it. Volatile liniment was prescribed, and rollers to support the veins which appeared relaxed and distended by their contents. Of the result of these experiments I have not yet been informed, as my patient lives more than seventy miles distant from Lexington."

The second case is given in a note in the Philosophie Zoologique of Lamark. It is there mentioned, on the authority of M. Hebreard, that a man of 50 years of age, had for 14 years the right arm completely insensible. The limb, nevertheless, preserved its activity, size, and power. On the accidental occurrence of a phlegmon upon it, there were heat, swelling, and redness produced in the part, but no pain, even when it was pressed. During his work, the subject of this case happened to break the bones of his fore-arm, at about a third of their length from the wrist. As he only felt a crash (*craquement*) he thought he had broken the shovel which he held in his hand; but it was sound, and he could only discover his accident by being unable to continue his work. The following day, the arm, at the fractured part, was puffed up; the temperature of the fore-arm and hand was increased, but the patient experienced no degree of pain, even during the extension necessary to reduce the fracture.* In this case, it is clear, that the muscles of the affected arm were equally insensible with those of I. S. And it is probable that this was also the case with the person mentioned by Dr. Brown, though the evidence is not so decisive; as the injury done to the thumb might only have affected the integuments.

The existence of muscular power, and the faculty of directing its exercise by the will, where the nerves have entirely lost that sensibility which is always regarded as necessary to the conveyance of volition from the sensorium, are circum-

* Philosophie Zoologique, par J. B. P. A. Lamark, Tom. 2. p. 262.—I have not been able to find the original case.

stances apparently irreconcileable with any knowledge which we at present possess, of the mechanism by which the will acts in the production of voluntary motion.

A Specific against Gout.

[From the London Monthly Magazine, for July 1814.]

TO THE EDITOR, &c.

SIR,

Two years ago I discovered the composition of a medicine which possesses the power of removing the paroxysm of gout in a degree fully equal to the Eau Medicinale. Since that period, having satisfied myself by various experiments of the identity of the two medicines, I shall now avail myself of your widely-circulating Magazine to communicate to the public an account of this very important preparation.

The value of this information will be sufficiently obvious, when it is recollected that many persons, particularly of the labouring classes of the community, are suffering from that species of gout to which the Eau Medicinale is applicable, who from its high price are unable to obtain it. Independent of this circumstance, its introduction into general practice has been materially impeded by the unwillingness of the profession to countenance a remedy whose preparation remains a secret.

It is foreign to the objects of this paper to investigate the merits or demerits of this principle; but I cannot avoid observing that, as we know nothing of the properties of a remedy, except so far as it produces certain sensible effects on the human body, we are in reality, for all useful purposes, as fully acquainted with the nature and properties of the empirical medicine as with those of the most recognized article in the *Materia Medica*. I do not assume too much when I say that, if the Eau Medicinale had been imported into this country as the juice of a foreign plant, without the usual appen-

dages of quackery, it would have obtained more universal confidence than it has had the fortune to meet with. The profession, who alone are competent to the task, would then have taken more pains than they have hitherto manifested in investigating its real qualities, with a view to ascertain the precise limits of its application.

I shall not, however, dwell upon this part of the subject, as it is my intention less to recommend the medicine, than to point out to those who have experienced its beneficial effects, *a cheap and easy way of preparing it.* However highly I may appreciate its efficacy, when properly administered, I am desirous of avoiding, in a communication not strictly medical, any detail respecting its application, because it is too potent to be trusted generally in the hands of the public. I am acquainted with no substance more unmanageable or more deleterious. I can affirm, from much experience, that, if given in too large a dose, or without attention to the circumstances of the case, its employment may be attended with consequences to the patient of a dangerous nature.*

The first hint which I obtained on this subject was derived from the writings of Alexander of Tralles, a Greek physician of the sixth century, whose book on Gout is one of the most valuable clinical records of antiquity. In his chapter on anodynes, he remarks, that some persons take a medicine called *Dia Hermodactylum*, which produces an evacuation of watery matter from the bowels, attended with such relief from pain that patients are immediately able to walk. *But*, says he, *it has this bad property, that it disposes them who take it to be more frequently attacked with the disease.* He speaks also of its producing nausea and loathing of food, and proceeds to describe the manner of counteracting its bad properties. The effects here described are so similar to those resulting from the exhibition of the Eau Medicinale, that I was led to hope

* In one instance it produced a most alarming transfer of gout from the extremities to the stomach, head, and bowels, which continued a fortnight, and nearly cost the patient his life.

it might be the same medicine, or at least that it possessed powers of the same kind. The *Hermodactyl*, the basis of the composition, was strongly recommended by *Paulus Ægineta* as a specific for gout; and such was its reputation, that we are told by Quincy, it had obtained the significant name of *Anima Articulorum*—the soul of the joints. I was further encouraged to think favourably of this medicine, from its having formed a leading article in the most celebrated gout-specifics of every age. Two of these are, *Turner's* gout powder, and the *Vienna* gout decoction, the latter of which is so strongly recommended by *Behrens*, in the *Ephemerides Naturæ Curiosorum.* It is likewise a fact notorious to every practitioner acquainted with the history of his profession, that this root has, at different periods, obtained considerable celebrity in the treatment of gout, though its general use has, after a time, been suspended; but that the occasional want of confidence in its powers arose less from its inefficacy than its misapplication, experience enables me to affirm.

The *Hermodactyl* of the shops has been considered by most writers on the Materia Medica, to be the root of the *Colchicum Illyricum;* but some recorded accounts of the poisonous qualities of the *Colchicum autumnale*, and the manner in which death had been produced by it, induced me to make my first trials with it, and my uniform success has rendered it unnecessary to make any change.

I directed a tincture to be made by infusing, for two or three days, a quantity of the fresh-sliced root of *Colchicum autumnale*, in proof spirits of wine, in the proportion of four ounces of the former to eight of the latter. This tincture I employed in all my first experiments; but, as the efficacious parts of the plant are soluble in water, or wine, either of these menstrua may be used; and to produce a medicine more particularly resembling the Eau Medicinale in external circumstances, it is merely necessary to use good Sherry or Lisbon. I purchased the root at Butler's, in Covent-garden, but it may be procured at all the physical herb shops; and, under the

vulgar name of *Meadow Saffron*, may be found in every part of England.

For medicinal purposes, a recent infusion of the fresh or dried root in water is equally efficacious. I have made extensive trials with this watery infusion, and have never been disappointed in its effects. I was led to employ the dried root, from observing its variable strength when fresh, in which it appears to be much influenced by the weather and the season of the year. After rain, it contains a large quantity of water; but, on the contrary, after much sunny weather, the watery parts of the plant are evaporated, and the active qualities more condensed.

The dose of the tincture, whether it be made with water, wine, or spirit, should be the same, and should vary according to the constitution of the patient. Upon an average, we may fix two drams, or two ordinary tea-spoonfuls, as the proper quantity for an adult.

The wine of white hellebore has been supposed by some to be the French medicine. At a very early period of the promulgation of this opinion, I spared no pains to ascertain how far it was founded in fact. I have employed hellebore in every possible form. In some cases it appeared to be possessed of efficacy; but a series of disappointments induced me to abandon it, as a medicine on which no dependance can be placed. In its mode of operation, it has some properties in common with the Colchicum, or *Meadow Saffron*, but in its power of curing gout it falls infinitely short of it.

It is proper to state, that my experiments have already been made in at least FORTY cases, followed by results of the most satisfactory nature, the paroxysms being always removed, and in several instances, no return of disease having taken place after an interval of several months.

JOHN WANT,

Surgeon to the Northern Dispensary, North Crescent, Bedford square.

ORIGINAL PAPERS.

Singular Obstetric Case.—By Joseph Klapp, M. D.

Philadelphia, May 6, 1815.

RESPECTED SIR,

WITHIN the last few weeks has come under my notice, a most singular obstetric case; thinking it would be interesting to you, I have taken the liberty of transmitting you an account of it. Although the fact, unusual as it certainly is, may have no tendency to cast light upon the operations of the accoucheur, yet I believe you will admit, that it evinces, to a greater extent than any occurrence within your knowledge, the ability of the uterus to perform all its customary offices, when in an unnatural condition, or at least under the influence of a most uncommon incumbrance.

It will also serve to show that dead organic substance, may, when invested by living matter, be preserved from putrefaction, during the lengthy period of many years. May we not thence conclude, that living matter is the most effectual of all antiseptics? What can be its mode of operation? Certainly not by any vascular communication. The human monster, the subject of this communication, was almost entirely deprived of its soft parts; so much so, that on taking a view of the object, its bones are the parts which first strike the eye. Doubtless this bony mass must have at some period been covered with the usual soft parts. How have these parts been removed? Was the body so neatly dissected by the absorbents of the surrounding living parts? Was putrefaction prevented from taking place, in this long residue of a fœtus, in consequence of the air having been excluded from it by the sac in which it was contained? Or would it not be more reasonable to conclude, that the effect was owing to the agency of both the living power, and the exclusion of the air? For my part, in answering these questions, I would not pretend to go further

than to suggest conjecture. The subject rather leads to physiological, than practical reflections, and the difficulty of solving the questions proposed, too clearly bespeak how little we know of many of the actions of life.

Yours affectionately,

JOSEPH KLAPP.

Professor JAMES.

On the 7th of March, 1815, my attention was requested to the case of Mrs. B——, residing in Second near Mary street; on my arrival I found it was supposed that labour had taken place; her pains appeared to favour that opinion, and the patient stated that her period of pregnancy had fully expired, agreeably to her calculation. Without making much further inquiry, I patiently waited for a while to remark the kind of pain with which she was affected; and not being able to convince myself that she was actually in labour, on further questioning, I was informed, that during the preceding few days, she had been afflicted with symptoms of cold, and that last night she was attacked with a diarrhœa accompanied with much pain. I began to suspect that this last might be the only complaint with which she was affected, and finding that the pulse was rather full and active, I directed ten ounces of blood to be taken from the arm, and afterwards to take thirty drops of laudanum. I left her with particular direction to send for me immediately if her indisposition should assume more the appearance of labour. The next morning I again visited her; and found her down stairs; had been relieved by what had been prescribed; rested well during the night; but the complaint of the bowels within the last few hours had returned, for which I directed the following medicine.

℞ Cretæ ppt.	ʒvj.
Pulv. G. arabic.	ʒiij.
Asthmat. elixir	℥ss.
Aquæ menth. pip.	℥j.

Sacchar. alb.	℥ss.
Aquæ. font.	℥v.
M. ft. julep.	

Of which she was requested to take two large table spoonsful every three hours, with six drops of laudanum in each dose, until relieved. At ten o'clock in the evening an immediate attendance was requested, when I found her in pretty severe labour, and was assured by the women present that she had been affected with sharp pain for several hours. On examination, per vaginam, it was perceived that the membranes had given way, and the os uteri had considerably dilated; and I found, on extending my finger in different directions with a view to discover the state of my patient, it was arrested in the posterior part of the pelvis by a hard, and somewhat round body, which, as near as I could ascertain, was situated about the brim of the pelvis, and resting directly on the sacrum. Notwithstanding the most minute examination I could not inform myself what was the nature of this substance. In size, figure, and hardness, it appeared to be very unlike any presentation which could arise from an ordinary fœtus. Its sides, or lateral parts, were so compressed as to form somewhat of a sharp edge, and excepting this particular, its general form seemed similar to that of the head of a fœtus; but I was led to believe that it could not be that part which was felt, on account of its uncommon hardness; for a mass of solid bone itself could not have given that sensation more fully; and further, its size was opposed to that idea, it not appearing to be more than four or five inches in circumference. On passing my finger over the anterior surface of this singular protuberance, I found, after passing apparently the distance of three or four inches, it suddenly diminished in size, so as to form something analogous to the neck; and when I endeavoured to extend the search farther up the uterus, my finger lodged in a confused mass of bones of different sizes, and a softer substance which felt as if it might be membrane, muscle, &c., but of their precise nature I could only conjecture. In the

next place I endeavoured to investigate the opposite surface of this body, or that part of it which was turned to the posterior part of the pelvis; but in this I was disappointed, for what I conceived to be the neck of the object, was very closely embraced by something which felt as if it might be a *sac*, which arrested the further progress of my finger in this direction. After full half an hour's most attentive examination of this very anomalous body, I reluctantly gave up all hope of being able to discover what it was; accordingly I removed my finger from it into the most anterior part of the pelvis, where I soon met with a second presentation jutting over the symphisis pubis, which I easily recognized as the head of a common fœtus. Not being able to find out the precise description of this singular case, I concluded, under all circumstances, it would not be advisable for me to make use of much exertion to expedite delivery. Accordingly, I waited between three or four hours in hopes that she might possibly relieve herself by her own efforts, during which time I made no further interference than to make an occasional examination, per vaginam, to observe what changes might take place. The pains returned regularly every few minutes, and were of considerable duration; notwithstanding, I soon was furnished with too much reason to fear, from the unlucky course which the labour was taking, that the expulsive efforts of the uterus, no matter how regularly and forcibly made, must in all probability prove incompetent to the wished for relief. I found, from repeated examinations, that the pains, instead of lessening, greatly increased the amount of the obstacle, in consequence of their operating equally, and at the same time, upon both presenting bodies, tending thereby to bring them down together through the pelvis, whose capacity could not possibly admit of her being delivered in this way. A sense of duty required that I should no longer be an inactive spectator, but the very alarming condition which my patient appeared to be in, demanded that the best active aid should be given to her which the uncertain nature of the case would admit of. The

anomalous body which had imposed on the case so much obscurity and difficulty, being the farthest down in the pelvis, I grasped it firmly with my fingers, and at first endeavoured to withdraw it by pulling it, at each return of pain, gradually increasing my efforts, until carried to as great an extent as was supposed prudent to risk. After several pains had been employed in this way I discovered that but little was accomplished by this method; for the part, on some account which I could not then explain, constantly receded during the intervals of the pains, nearly to as great a degree as it had been previously protruded. Observing, that the second body presenting, lay directly above, and on the other, that it appeared to be much affected by the pains, so much so as to be brought down directly upon it, I conceived that if the larger body could be pushed back a little, that which lay before it, and prevented it from passing through the pelvis, might also be pushed upwards, and out of the way, so as to admit of the former to be brought down; and that possibly in this way delivery might be effected. Accordingly this second plan was put to trial, but with no better success than the first, the anomalous body appearing to be so firmly fixed that it could not be dislodged from its situation. Having thus failed in both of these attempts, several pains were permitted to follow without receiving any assistance or interference from me, partly on account of my being sensible at this time of great fatigue; but chiefly, because I confess I was for a little time at a loss to know what to do in this perplexing case. On renewing the examination, per vaginam, I found the presenting parts had again descended to their former station. Thus circumstanced I knew very well the woman could never be relieved without further aid from art; at this period too my fears for her safety had considerably increased in consequence of the occurrence of fainty fits and flooding; a third attempt was therefore resolved on, in which I thought myself justifiable to risk more force, and to make a greater exertion than I had previously ventured to do. I introduced my finger along the anterior

surface of the first presenting part, and succeeded in obtaining entrance to what I supposed to be a *sac;* along this course my finger was pushed upwards to the extent of several inches; then, by taking a different direction, I fortunately succeeded in getting completely around the *object*, so that I had it firmly hooked within my finger. Having at length obtained a strong hold of this *troublesome uterine curiosity*, I waited for a return of pain, with which I was soon favoured, when I pulled with much force, and almost directly it escaped from its confinement, and the woman very luckily got clear of it. This difficulty having been removed, the body still remaining in the uterus met with no obstacle to its passage through the pelvis; and by three or four pains, with little or no aid from me, she was finally delivered of a full grown, but dead fœtus. The placenta was expelled in fifteen minutes afterwards. There was very little flooding at this time, but the woman seemed exhausted and fainty; I therefore directed a small quantity of cordial drink to be given her. In a short time her strength and spirits seemed much recruited. When the necessary directions had been given, I entrusted her to the care of the nurse. My curiosity being greatly excited by what had taken place, I could not any longer refrain from making an examination of the singular *object*, which I had just extracted from the uterus with so much difficulty to myself, and I may add with so much suffering to my patient. To my great astonishment, on opening the cloth in which it had been wrapped, I found that it was a fœtus, but in a highly unusual state. This I took the liberty of taking home with me, and which in the sequel of this letter shall be minutely described.

March 9.—She complains of pains in different parts of the body, and a general sense of soreness. Has some fever, and diarrhœa is violent. Directed the combination of chalk mixture and laudanum to be continued.

March 10.—Complaint of the bowels has been very troublesome; says she had a dozen passages through the night. Has voided urine this morning, and the hypogastric region which

had been previously swelled has become more as usual. This day for the first, her stools are involuntary, the sphincter ani seems to have entirely ceased to perform its office. She is very thirsty; tongue is covered with a white fur; skin is dry, and pulse 64 in a minute, and somewhat tense. Lochial discharge such as she has been accustomed to in her former confinements. Apprehensive of inflammation, I directed a blister plaster to be applied over the lower part of the abdomen; eight ounces of blood to be taken from the arm, and to give the following for the diarrhœa.

℞ Pulv. ipecacuanhæ, gr. xv.
Gum. opii. gr. iij.
Syrup. simplic. q. s. ft. pil. xij.

Two of the pills to be taken every three hours. Barley water for common drink.

March 11.—Urine discharged freely last night. Bowel complaint continues, but not so severe. Has had some violent attacks of colicky pains. Blister had not risen sufficiently this morning, and plaster was replaced. Passages continue involuntary; lochial discharge continues; pulse about as yesterday; sweat some during the night; tongue still furred. On the whole she thinks, judging from her feelings, that she is better. Blood taken yesterday is both sizy and cupped; the coagulum is dense and the coagulating lymph is very strong. Pills to be continued; administer a glyster of linseed tea, and a few drops of laudanum; though it may not be retained, some good may arise from its impression on the internal surface of the rectum. Eight ounces of blood more to be lost, and to carefully restrict to very light food and drinks.

March 12.—Diarrhœa has abated, less pain, and passages not so frequent, continuing however involuntary. Has less fever—pulse about 60 in a minute, and very small. Her countenance is very pale, and says she feels very weak. Blood taken yesterday not so sizy. Ordered the ipecacuanha and opium pills to be continued, and to give a half tea-cupful of the infusion of logwood four or five times in twenty-four

hours. Barley water to be used occasionally for drink, and to use for aliment a pap of starch and milk.

March 13.—Fever very slight; pulse not more than sixty, and regular. The tongue looks better; diarrhœa not so frequent. The sphincter ani is resuming its office. Directed a glyster of starch and laudanum to be given; continue pills and the same nourishment.

March 14.—On my entering the room this day, my patient with a smile accosted me with "doctor I am well to day." Bowel complaint is now very trifling, had only two stools through the night, and two to-day. Sphincter ani now performs its office perfectly. Pulse, skin and tongue, correspond with the improvement in other respects. All swelling in the abdomen has subsided, and she is fully sensible of the change produced in the region of the uterus by the extraction of the unusual fœtus—lochia lessening. Continue pills, logwood and starch pap.

March 15.—Much better; has been able to sit up a short period to-day. Had one stool in the night, and three to-day. Has a good appetite, and is becoming stronger. Directed the medicine of yesterday to be continued.

March 16.—Rested well last night, but has had a considerable return of the bowel complaint to-day. Free from fever; and excepting the diarrhœa, she seems in every respect improving. Continue medicine.

March 17.—Bowels are now nearly in a natural state; has had but one stool to-day, and evidently getting well.

March 19.—Continues better; has had two passages to-day, and is becoming stronger.

March 21.—Diarrhœa has entirely disappeared; and, excepting debility, the common attendant on the lying-in state, my patient appears to be quite well. Desist from the further use of medicine.

Relative to the circumstances which led to this extraordinary birth, I have not only been informed by the patient herself, but have also been favoured with an interesting detail of

facts from Dr. Caldwell, one of the physicians who attended her after she was taken ill, with a uterine hæmorrhage, at about the seventh month of what she supposed to be a pregnant state.* The flooding continued more or less nearly six weeks, when pain supervening, supposed to be that of labour, the assistance of Mrs. Morrell, a midwife, was requested. The old lady not being able to satisfy herself with respect to the actual situation of her patient, solicited the aid of a physician. The result of a further investigation of her case, was a belief, that she in all probability was not pregnant. Under this impression medicine was resorted to, the principal of which she supposed to be mercury, and after the lapse of some time she in a great measure recovered her health. After the abdominal swelling which the patient had imputed to pregnancy had subsided, while on the use of medicine, she very plainly discovered a very hard tumour in the region of the uterus, which, by assuming different positions of the body, would move from one side to the other. This tumour never occasioned much uneasiness, excepting when a sudden motion would be given to it, or at the times of her being pregnant, and then it would sometimes give her slight pain. She continued to carry this singular enlargement the period of about eleven years, during which time she enjoyed an ordinary proportion of good health, and became the mother of six children. In the last of these six births I extracted from the uterus this tumour, which proved to be the remarkable fœtus before alluded to. I now beg leave to introduce Dr. Caldwell's letter.

"Dr. Caldwell has a perfect recollection of the case of Mrs. B——, to which Dr. Klapp has reference in his note of this morning. It occurred, he thinks, in the year 1804. That lady having previously had several children, supposed herself again in a state of pregnancy, accompanied however with several

* It will be observed that this statement does not appear in Dr. Caldwell's letter, as well as a few other circumstances alleged by the patient, which must be attributed to the difficulty of retaining in the memory events which had occurred so many years ago.

unusual and unpleasant symptoms, which did not fail to excite in her mind considerable apprehension. At the request of Dr. C. she engaged the late Dr. Church to be with her at the time of her confinement.

"Some time in the spring, perhaps in the month of March, of 1804, labour pains came on, and continued with considerable severity for two or three days.

"There being no appearance of delivery, and Dr. Church becoming uneasy, and somewhat doubtful as to the issue, requested Dr. C. to attend with him in consultation. The pains were now evidently on the decline, and in a few days afterwards, without producing any birth, or as far as Dr. C. now recollects, any unusual discharge of fluids, went off entirely.

"The abdominal enlargement still continuing, and Dr. C. suspecting the case to be dropsical, recommended the use of calomel and digitalis. He thinks, but is not certain, that he pushed the remedy to the extent of ptyalism. In a few weeks the tumour disappeared, if not entirely, at least so far as not to be perceptible to common observation, but many months elapsed before the perfect re-establishment of the patient's health. At length however all complaints ceased, certainly none were spoken of, and in the course of the following year Mrs. B. was delivered of a healthy and vigorous child. Dr. C. thinks she had one or two more children during his attendance in the family, which terminated perhaps in the beginning of the year 1808. Subsequently to her *false confinement* in 1804, Mrs. B. menstruated regularly when not pregnant, and enjoyed, as far as Dr. C. recollects, tolerable health.

"Touching the case in question, the foregoing is the amount of all that Dr. C. is able to communicate. He is sorry it is not better calculated to shed light on the subject, and to subserve the inquiry which Dr. K. may have in view.

"*March* 16, 1815."

A description of this singular fœtus.

Its colour is a light red, it is very destitute of all the exter-

nal soft parts of the body, excepting an indistinct appearance of muscle on the lower extremities; all the rest of the exterior of the body consists of bones covered with a fine, transparent membrane. The greater part of the bones are of the usual form, yet many of them are thrown into unusual situations. The *object* viewed as a whole exhibits a figure extremely irregular, in short it is a shapeless mass of bony matter. The head and inferior extremities are somewhat bent towards each other, in consequence of which its back at, and just below the scapulæ, is formed into a considerable convexity. There is no sternum: at the place where it should be there exists a depression, within which may be perceived a quantity of soft substance apparently consisting of viscera; on each side of this depression are placed the anterior terminations of the ribs; these are destitute of cartilages, but are successively arranged aside of each other in the natural order, eight or ten of which can be easily pointed out. The left scapula has the usual form, the right is indistinct, neither of which are in their proper places. The os humeri of the right side passes down over the ribs in a direct line from the glenoid cavity of the scapula, to the hip joint, and the bones of the corresponding fore-arm are reflected upwards from the elbow joint along the humerus to the extent of their length, so that the joints of the wrist and shoulder are nearly in contact with each other. No appearance of a hand can be found on either side, but something similar to five metacarpal bones are attached to the cubitus of the right side. The head is turned round to the left, so that the face is nearly on a line with the left scapula. The left upper extremity is differently disposed of from the right; the bones of the fore-arm are bent back on the humerus, similar to what is observed in the other extremity; but instead of hanging down over the side as the other does, it is thrown immediately forward, so as to run nearly in a direct line from the shoulder joint to the spot where the upper end of the sternum should have been. By this arrangement the right side of the head and face rests on the left upper extremity, so that

the chin is attached to the shoulder joint of this side. The general figure of the head is nearly natural. The frontal, parietal and occipital bones, are easily distinguished; also the sagittal, coronal and lamdoidal sutures. The temporal bones are entirely wanting. Something similar to an ear can be distinguished on the left side, but no trace of an ear can be discovered on the other side. The different parts of the face are not very obvious at first sight, but by a little attentive inspection nearly all of them can be recognized. The cavity of the head appears as if it might be occupied by something similar to brain. No trace of an umbilical cord can be detected. The lower extremities are bent in a way similar to the upper ones, the bones of the leg pass up along the back part of the femoris, so that the ancle and hip joints are nearly in contact with each other. The thigh bones are somewhat covered with a soft substance resembling muscle. The feet are absent. The greatest circumference of the head is eight inches. From the top of the head to the ancle joint is eleven inches and a half. The weight of the *object* is eight ounces and a half.

TO THE EDITORS OF THE ECLECTIC REPERTORY.

GENTLEMEN,

THE following communication, which I send you for the Eclectic Repertory, on a disease too much neglected by preceding practical writers in medicine, will, I hope, receive that attention, which one, so formidable in its aspect, and so fatal in its consequences, necessarily demands.

On Mania à Potû.

BY ISAAC CLARKSON SNOWDEN, M. D.

From the familiarity which my late residence in the Medical Department of the Philadelphia Alms-House, has furnished me with this disease, I shall endeavour to present, from

personal observation solely, a concise view of the cause, a correct delineation of the characters, and the most successful method of treating the disease in question.

In the animal system, there is known to exist a principle, denominated variously, principle of vitality—excitability—vibratility, &c. &c. according to the opinions of different theorists. Rejecting all specious display of hypothesis, and strictly adhering in this, as I shall throughout the communication, to fact, and the most obvious inductions, I merely state, that this principle, in whatever it may consist, or whatever name it may assume, may be diminished, augmented, impaired, destroyed. The first effect produced by ardent spirits on the animal system, is an universal and preternatural excitement. When the excitement is urged to a high degree, the functions of the brain, and of most of the systems, become impaired. Nor does this elevated condition of the system continue long; for, by a rapid decrement the excitement falls, not to its original level, but far below the natural, healthy standard. When the practice of drinking spirituous liquors to excess has been long pursued, the vital principle, or, (to use a more general expression) the system, which, for a certain period, was able to resist in some degree the force of such a stimulus, loses, by being so frequently and so powerfully operated on, (when the cause itself ceases to act) the power of rising from the state of depression into which it was thrown. This I consider to be the state of the system in Mania à Potû.

The SYMPTOMS which attend this disease are the following. I will sketch them as nearly as possible in the order in which I have usually observed them to approach. The countenance becomes dejected; the eyes are red and furious, never fixed, but incessantly wandering from object to object; the tongue is dry and hard; the skin, though occasionally dry, is more frequently *moist*; the bowels are almost always costive the stomach much disordered and affected with frequent vomiting. The patient complains of violent pain in every part of his head; he is unable to retain aliment of any kind; and even

fluids which he craves are almost always ejected immediately when drank, or in a few minutes afterward, with the exception of spirituous drinks, provided they are taken in very small quantity at a time. A trembling seizes on every muscle, so that he is incessantly in motion; his knees strike against each other and he frequently falls. He is, however, occasionally (though but for a few minutes at a time) possessed of most surprising strength, so that it sometimes becomes necessary to obtain the assistance of several persons to confine him. After these paroxysms of strength are over, he becomes suddenly debilitated in the extreme, and falls like a mass of lead: immediately after which he is *sometimes* seized with the strongest convulsions, in which state he continues for many minutes. All his motions are marked by a singular impetuosity; he hurries his hands over every part of his body, rubs his face and head with peculiar violence, seems to imagine every thing around him out of its proper place, and is incessantly picking at some imaginary thing that incommodes him: he pulls his bed-clothes, throws his bed about the room, and moves his bedstead continually from place to place. But his mind exhibits a still more distressing and horrible picture. He intreats not to be left alone, points to men and devils armed with daggers and other weapons, whom he expects every moment to see commencing his destruction. He is in horror of ten thousand evils, and will endure no contradiction, no refusal of compliance with his demands!

These are the symptoms which accompany this frightful disorder; from which, unless the patient be very speedily relieved by a judicious treatment, he will most inevitably sink beneath an accumulated load of the severest bodily and mental sufferings.

Treatment. Happy would it be for afflicted humanity, were we able to speak with the same degree of assurance of the probable result of the treatment of every other disease, which I am persuaded might be expressed of a correct and judicious treatment of Mania à Potû.

At the commencement of the attack, when the disease has *not* yet assumed a formidable appearance, frequently no more is necessary than to pursue the following plan:—

℞ Tinct. opii. gtts. lxx. vel lxxx.
Ess. pip. menth. ʒss.
Bis in primis quatuor horis.

Porter should be frequently administered; or, which is often more effectual in the commencement of the cure, from half a pint to a pint of spirits, according to circumstances, in the course of the day. Opiates should be continued daily at regular intervals, and in moderate quantity, as follows:—

℞ Tinct. opii. camph.	gtts. lx.	Secundâ vel tertiâ quâque horâ.
Tinct. assafœt.	ʒss.	
Ess. pip. menth.	ʒss.	

Or: ℞ Gum. opii. gr. ij. vel. gr. iij. ter die.

The bowels should be particularly attended to. If they are costive, which is usually the case, an enema would be the best mean of evacuating them. The following common one is suitable and conveniently procured:—

℞ Muriat. sod.	ʒiij. vel ʒiv.	Let it stand until it is at a proper temperature.
Ol. ricin.	ʒj.	
Aq. bullient.	℔ss.	

It is necessary, however, sometimes to use laxatives, and even cathartics internally: prudence would require the administration of the latter in divided doses, on account of the increased debility which would supervene a too copious depletion from the bowels.

Their diet, as soon as they are able to take nourishment, should be nutritious and strong. Soups made from beef and fowl, and well seasoned with spices, are very palatable and proper. Hot chamomile tea, hot coffee, and rice, they are generally fond of.

But frequently we do not see a patient with this disease until more violent and alarming symptoms have supervened. It then behoves the physician to employ a more energetic practice. In such cases, I might almost say, that *sleep induced by opium* is the only remedy.

℞ Gum. opii. gr. iv. vel gr. v. every two hours until the patient sleeps.

Until sleep is procured, scarcely any thing can be advantageously done. Nevertheless, if the pain in his head be extremely violent, and continues long, it may sometimes, *very seldom* however, be necessary to take a few ounces of blood. The pulse is here an important, an indispensable guide: for though it may be *full*, *frequent*, and to a hasty examiner *apparently* strong and tense, he will find it almost *always soft*, and obliterated by very slight pressure. Should he bleed under these circumstances, the hopes of recovering his patient will be much diminished; and he may think himself happy if he does not see him expire in a convulsive paroxysm before he has time to secure the arm. But the patient will be best, and in the safest manner, relieved by enemata or cathartics, and sometimes it becomes necessary to employ both. Cups to the temples and back of the neck, and a blister to the head, are often employed with considerable benefit in cases where we have reason to anticipate serous or sanguineous effusion on the brain. In some instances of this kind, where the pulse was actually *hard* and *tense*, I have performed arteriotomy with peculiar benefit to the patient. But this is seldom called for. In many of the cases which I have seen, being with them through the day, and often during parts of a night, it has been prudent, and even absolutely necessary, before any thing could be administered, to confine the patient by means of a straight-waistcoat. When this is done, he almost always becomes more calm, and can more easily be persuaded to take what may be prescribed. He frequently fears that there is poison in the cup from which he takes his drink, &c.; and it is best sometimes to humour him by throwing out the contents, and presenting him some which is fresh.

I have almost invariably observed that patients with this disease are remarkably attached to their physician, and will take any thing from his hands, which they would refuse from their attendants, and even friends. The mildest language, and

the kindest manner should be employed towards these unhappy beings; and I believe, that in far the greater number of cases, it is the only method by which they can be managed: except in two instances out of nearly a hundred, I have not been under the necessity of using authoritative or harsh language.

When the patient has awaked from his *opiate* sleep, he should be allowed to drink pretty freely of brandy or spirits. Sometimes, but very seldom however, it has been necessary to give it to the extent of one pint and a half daily, for three or four days in succession; but generally one pint a day, and sometimes half a pint daily, is sufficient. It is almost indispensably necessary that he should be allowed the use of these liquors; in fact, they are an important part of the *curative* treatment. Without them the system would sink to an extreme degree of prostration, to raise it from which it would become necessary to have recourse to those very measures, the neglect of which has involved it in a condition almost, probably absolutely, irrecoverable.* If after waking, he seems disposed to become furious again, give the opium in the quantity before mentioned, viz. gr. iv. or gr. v. every two hours until sleep is again induced; and if, after waking again, the frenzy should recur, again resort to the administration of the opium.

For several days successively, he should now take one or other of the following mixtures, or something similar to them. They are the formulæ generally used by the physicians of the Alms-house.

℞ Gum. assafœt. ʒij. tere in mortario cum
Aq. menth. ℥vj.
Tinc. opii. ʒij.
Capiat æger cochleare magnum secundâ quâque horâ.

* The use of these liquors should be continued for several days, as long as the symptoms appear to demand it: it is, however, of importance to diminish the quantity gradually every day.

When the symptoms indicate a greater degree of prostration, the following preparations are demanded:

℞ Carb. ammon. ℥ij.
Pulv. gum. arab. ℥iij.
Tinc. opii. ℥j. vel ℥ij.
Tinc. lavend. comp. ℥iij.
Aq. ℥viij.
} Cochleare magnum secundâ quâque horâ.

Of the following mixture give a table spoonful every half hour, or hour.

℞ Carb. ammon. ℥j.
Tinct. opii. gtts. lx.
Sac. alb. ℥ij.
Pulv. gum. arab. ℥j.
Aq. ℥vj.

This treatment, together with the diet mentioned above, should be continued, with very little variation; modified, however, according to the variation of the symptoms, until the cure is effected, which generally takes place in the course of one, two, or three weeks.

* *The dissections* which I have made of the brain, &c. of persons whom I have seen die of the most furious and unconquerable Mania à Potû, confirm the common remark, that when effusion does take place, it is more generally of the serous than of the sanguineous kind; but I believe that far the greater number of cases exhibit proof neither of sanguineous nor serous effusion. Three brains were highly florid, but there was no extravasation of blood: there was some serum between the dura and pia mater in one of these cases, and a preternatural quantity in the lateral ventricles of the others. I am informed by a friend who resided at the same institution, that he has, in two instances, found, between the dura mater and cranium, half an ounce of blood mixed with serum. Several

* Patients, and particularly those afflicted with this disease, are often brought into the Alms-house in the last moments of life, and when it is impossible to hope a favourable result from the most judicious treatment. They have been known to expire while the attendants have been conveying them into a ward, or in a few minutes after having been placed in bed.

brains did not exhibit any mark of disease whatever. The stomach in two instances was florid, and appeared to have been highly inflamed. Nothing peculiar struck me in the examination of the intestines, except that the colon was considerably contracted in a few instances. The liver almost always exhibited, more or less, a preternatural appearance. In two subjects who had experienced repeated attacks of this disease, on making an incision into the posterior part of the right lobe of the liver, my knife was followed, in one, by a *pint*, in the other by nearly a *quart* of sanious pus.

The pericardium was usually distended by a preternatural quantity of fluid.

ORIGINAL REVIEW.

A Dissertation on the Influence of a Change of Climate in Curing Diseases; by Professor GREGORY, of Edinburgh. Translated from the original Latin, and enlarged with occasional Notes: by WILLIAM P. C. BARTON, M. D.—"Pessimum ægro est cœlum quod ægrum fecit; adeo ut in id quoque genus, quod natura pejus est, in hoc statu, salubris mutatio sit." Celsus de Re Medica. Philadelphia: published by Thomas Dobson, 1815: 1 vol. 8vo. pp. 212.

AN analysis of this work will be, we presume, more acceptable, if we present occasional extracts, exhibiting the views of the author, on a subject so interesting to the profession as the influence of a change of climate in curing diseases. By this plan too, our readers will be enabled, independent of any prepossessions of our own, to form a more correct estimate of the real merits of the work, and of the claims which the English version has to public patronage.

The work is divided into sections. The first section contains general observations relative to the effects of climate on the human constitution, and especially respecting the effect of that of Great Britain on the inhabitants—Remarks on the constitution of the air; and its *modus operandi* on the solids and fluids of the body; also of the disorders induced by its inclemency, and the sudden vicissitudes to which it is liable,—of the effects of sailing on the system, and the peculiar kind of nausea, vomiting and exercise, arising from it. Observations tending to prove, that a change of climate may reasonably be expected to cure many obstinate chronic diseases, and more especially those endemical to the inhabitants of Great Britain.

Though placed several degrees to the south of Great Britain, we can not fail to perceive, that many of the observations

which more peculiarly apply to that island, are applicable to the portion of the globe we inhabit. We are familiar with the impressions made on our systems by the sudden vicissitudes of a variable climate. Great transitions from heat to cold are observable throughout the United States, and notwithstanding the more prevailing dryness and purity of our atmosphere, many of our diseases are considered as dependant on the cold and wet, which frequently occur during the seasons of winter and spring.

Dr. Gregory explains the operation of cold, as constricting the vessels and pores of the skin, while excessive moisture he considers as relaxing the muscular fibres, weakening the contractile powers of the heart, and diminishing the action of the arteries. Hence the diminished perspiration and the supposed regurgitation of the blood on the internal parts, occasioning inflammation, hæmorrhage, fevers and a great many other disorders. Still there is a power inherent in the living body by which it is enabled to ward off the danger. "Thus it is, (he says,) that the human constitution, provided indeed it be vigorous and sound, accommodates itself so surprisingly to all variations of climate, from the coldest to the temperate, and the more fervid; that for the most part it suffers no injury from their diverse temperatures.* Cold and moist air, such as prevails in Great Britain, is the least favourable to perspiration, and an equable distribution of the fluids; but nature has so amply provided for that inconvenience, that the natural circulation of the fluids, in so far as is essential to health, is sufficiently promoted: consequently, those who are blest with sound and robust constitutions, suffer little or no detriment from this cause. Yet we see, notwithstanding, many instances, in which the healthiest temperament affords no barrier to the

* "Perhaps no climate or country is unhealthy, where men acquire from experience, or tradition, the arts of accommodating themselves to it. The history of all the nations of the world, whether savage, barbarous, or civilized, previous to a mixture of their manners by an intercourse with strangers, seems to favour this opinion."—*Rush on the Climate of Pennsylvania.*

hurtful incursions of the climate of this country. It is probable, that there are critical and dangerous periods in some constitutions, and without doubt there are idiosyncracies arising from peculiarities in the manner of living, as well as from the various conditions of men, and from other causes not accurately investigated, which render persons, who are in other respects perfectly vigorous, liable to diseases incidental to climate. It should be remarked, however, that although the irregular and unseasonable variations of the weather, do certainly exert most powerful effects on the constitution, and tend to produce many serious disorders; yet it happens, not unfrequently, that evils are imputed to the influence of climate, which in fact it has but little agency in generating; and which really derive their origin altogether from other sources. For in every clime, however variable and insalubrious it may be, we find inhabitants enjoying perfect health; and no portion of the terraqueous globe gives birth to any race of beings, that are liable to be annihilated by the destructive effects of the climate they inhabit. It has not either ever been observed that other animals are injured by the influence of their native clime, however insalubrious and intemperate it may be, and even under circumstances of the greatest possible exposure to the power of its severity. We surely cannot doubt then, that men may be able to endure the irregular transitions of climate without either injury or danger, provided they live temperately. Nor can we for a moment believe, as we should by admitting a contrary position to be true, that the Creator and preserver of the human race would subject mankind to a condition so rigorous and unjust. Besides, those men who are accustomed to a rude, and laborious life, who are but little regardful of the unseasonableness of the weather, to the vicissitudes of which they are continually exposing themselves, certainly live in the enjoyment of health and vigour like other animals; nor was it till he discovered and brought to perfection, artificial means of defending the body generally, from the extremities of the seasons, that man was subdued by the

severity of his native clime. Those, therefore, who are unskilled in the means of avoiding or guarding against the extremities of weather, seldom suffer any inconvenience from it; and it is only in proportion as men become afraid of exposing themselves to the intemperance of the air, and sedulously endeavour to avoid it—that they are rendered very susceptible of its effects. There is certainly but one method, by which men are enabled to defend themselves against the rigour of an unhealthy climate; namely, by rendering their constitutions so vigorous and robust, that they are in a situation to encounter and endure the danger and inconvenience they cannot shun. It is not surprising therefore, that those who are accustomed to polished life, and to indulgence in various luxuries, should be solicitous to elude the rigorous excesses of the weather. For if, from the causes we have mentioned, we find that men, in other respects very robust, and in the full enjoyment of perfect health, can scarcely endure this severity without annoyance; how much danger is not to be dreaded for those who have inherited from nature, less healthy constitutions—who, from living intemperately, or otherwise unhealthfully, have rendered their systems subject to various disorders —who from ill health, or from whatever cause, are broken down and exhausted in strength—or finally, for those advanced in years, or continually inclined to depression of spirits, and in whom all the natural powers of the mind and the body are wasting away by degrees!

"It is in cases then of this nature, that we should seek another climate blest with the cheering aspect of a clear and serene sky, assisted in its happy effect upon the feelings by the genial influence of soft breathing zephyrs. Where the prevalence of pleasant and more agreeable manners and livelier scenes are calculated to soothe the feelings, to promote cheerfulness, and to revive the declining powers of nature."

When it is judged expedient to make trial of a change of climate, with a view to its effects as a remedy, the question naturally arises, whether the patient should travel by sea or

by land? For a solution of this question we beg leave to refer to the work before us, as we should greatly exceed our limits if we accompanied the author through the details incidental to this part of his enquiry.

The second section treats of the nature and symptoms of pulmonary consumption, and its similarity or identity with scrofula; of the different opinions of physicians respecting the curable or incurable nature of phthisis pulmonalis; of the effects of wounds and other injuries of the lungs; of the remote and proximate causes of consumption, and the reasons that may be deduced from them, in favour of a change of climate upon the disease; of the curative effects of travelling, riding on horseback, and sea voyages.

Great as is the devastation produced by consumption in Great Britain, in these states our liveliest emotions are likewise exerted by the numbers who are the annual victims to this inexorable disease. According to the London bills of mortality, one fourth of the deaths may be ascribed to consumption. This is pretty nearly the proportion as stated by Sydenham. Of the deaths which occurred in Philadelphia during the year 1814, nearly one sixth* appear to have been occasioned by phthisis pulmonalis.

According to the description in the volume before us—"Pulmonary consumption may be known, for the most part, by the following symptoms: a slow emaciation of the whole body, accompanied with hectic fever; a sense of weight or constriction, or pain, in the breast, with difficulty of breathing; a frequent and troublesome cough; which in the beginning is dry, but after the disease has progressed, generally accompanied with purulent spitting. The symptoms which denote incipient consumption, vary according to the causes which produce it, as for instance, pleurisy, catarrh, hæmoptysis, &c.

* If we take the reported deaths of phthisis pulmonalis, from ten to fifty years of age, only, the deaths of this year will be nearly one ninth.—EDITORS.

The proximate cause of this disease is well known. Dissections of the bodies of persons who have died of consumption have almost always exhibited tubercles, vomicas and ulcerations of the lungs; by which sometimes nearly the whole of that viscus is consumed. I say that these morbid phænomena will *almost* always occur, for I would not venture to assert that they will *always* be found. There are many physicians of no little reputation, who strenuously contend, that sometimes neither an ulcer nor any other visible injury is to be discovered in the lungs of those who have had copious purulent spitting, and other symptoms of consumption, and who had evidently died of this disease. It is agreed on all hands however, that instances of this kind are very rare, while it is generally allowed that true consumption arises from an ulcer, or rather ulcers in the lungs. The dissections indeed of dead bodies satisfactorily demonstrate, that not only a single ulcer or tubercle, but sometimes congregations of them had produced the disease, and that these had become inflamed and had suppurated. The proximate cause therefore being known, the curative indication would seem to consist in dissipating the tubercles, or if they shall have already passed into suppuration, to heal the ulceration in the first place. This effect, however, is to be accomplished by the healing powers of nature, and not by the assistance of physicians; and I must confess, that, in this stage of the disease, I see nothing which justifies the expectation of any benefit being likely to result from a change of climate. If the general habit of body is sound, ulcers in any other part are usually healed with facility by the mere efforts of nature; and in such cases physicians might easily retard, though they could scarcely promote, the cure. For I do not know any remedies which, by any specific power, can produce that healing process. It is well known, that many remedies which have been administered with that intention, have had altogether a contrary effect, and not only did not do any good, but often proved very injurious,—such as natural and artificial balsams: and these are now rarely employed."

The nature of the disease and its relation to scrofula, are more fully expressed in the following paragraph. " All physicians know that this complaint very frequently arises from a scrofulous disposition. The illustrious Mead advanced that opinion many years ago. Indeed, we owe to Sydenham a memorable remark, which seems to have suggested this; namely, that in some consumptive persons, who have been cured by riding on horseback, glandular tumours in the neck, which bore a strong resemblance to scrofulous swellings, have been observed after that disease had left them. No doubt, however, remains on this subject among physicians of the present day. Observations have satisfactorily ascertained the fact, that persons of scrofulous habit are more subject to consumption than others, and that the greatest part of consumptive people evidently have this disposition. There are some physicians too, of no little reputation, who, out of every hundred patients carried off by consumption, reckon the proportion of ninety at least, to be scrofulous. Besides, there is certainly a great similarity and affinity between the tubercles and consumptive ulcers of the lungs, and scrofulous tumours and abscesses in other parts of the body. They also have the same external, and, if they be cut by the knife, the same internal appearance; the same thickness and hardness. In the same way they often increase by degrees from a small beginning to a large tumour, and generally without much pain or inconvenience; they suppurate tardily and with difficulty, and never pass into a healthy suppuration, but are resolved into offensive and almost incurable ulcers. Both appear at the same seasons of the year, that is, in winter and the spring; upon the approach of summer they are mitigated or discussed; and on the return of spring both often reappear. And lastly, in dissecting the dead bodies of those who evidently died of scrofula, scrofulous tumours in all parts of the bodies, and tubercles in the lungs of the same kind, have not unfrequently been found; this it has happened to me to see twice or thrice.

From all these things it is sufficiently evident, that consumption of the lungs often arises from a scrofulous disposition, and that it is a true scrofulous disease. Wherefore, when consumption occurs in those, who are either manifestly scrofulous themselves, or born of scrofulous parents, it is generally to be attributed to this cause."

The third section treats of the causes of hypochondria, especially its origin from the effects of climate, diet, or mode of life. Its various symptoms. Its connexion with hæmorrhoidal flux and its affinity to this disease, deduced from the similarity of its causes. The general absence of any preternatural appearances in the dissection of the dead bodies of hypochondriacs. Sometimes turgescence in the mesenteric veins observable. The different remedies for this disease. The beneficial effects of riding on horseback, especially when conjoined with a change of climate.

The fourth section treats of gout. Of the effects of a cold and humid climate on arthritic constitutions, and the general inefficacy of the remedies used in this disease. The advantage of a change of climate over all other remedies in this complaint, particularly from a cold to a warm one; deduced from the effects of travelling and warm air, in promoting a free and healthy determination of the fluids to the skin, especially in old persons. Also the beneficial effects of a mild climate on the disorders of the stomach, so intimately connected, and almost always combined with gout. Arguments in favour of a change of climate in gout, are inferred from a consideration of the remote causes of the disease. Of its effects in averting the ill consequences of repressed gout, which generally succeed the use of other remedies. Several examples of the extraordinary efficacy of a warm climate in curing gout are recorded in this section.

The fifth section contains some observations on the means of invigorating old age. Exhibits the signs and effects of declining life in old persons, and the particular consequences of the depreciated functions of the system. The reasons are as-

signed why a change of climate may be expected to relieve them, and produce a general invigoration of the fading body. In this section are pointed out, the injurious effect of a cold and humid climate upon old people, and the advantages to be derived from travelling to warm countries. In the opinion of Dr. Gregory, a change of climate is hardly required before the fiftieth year; but after this period, sooner or later according to the strength and constitution of the person.

Before we close this review, we must not overlook the notes which have been subjoined by the translator. Many of them are valuable as explaining the nature of our own climate, and its influence on the human system; and as containing the records of some interesting cases.

BIOGRAPHICAL MEMOIR

OF

Sir Benjamin Thompson, Count of Rumford.

[From the New (London) Monthly Magazine, for October, 1814.]

If a life devoted to the cultivation of science, with a view to increase the comforts and promote the happiness of mankind, is the most legitimate claim to eminence, then must the name of Count Rumford rank in the very first class of the distinguished characters of the present age, and command the admiration and gratitude of posterity, when the memory of men, whose talents have been exerted only for the annoyance of the human race, is lost in oblivion, or, stripped of its fictitious splendour, become the object of universal execration.

Benjamin Thompson was born in 1752, in the little town of Rumford in New England, where his parents, who belonged to the middling class of society, resided. Their son received the best education that this obscure place could afford; but there is every reason to believe, that he owed more to his own industry and thirst of knowledge, than to the instructions of a master. So early were his talents developed, that he began to instruct others at a period when young men in general are only obtaining instruction for themselves. He also married advantageously early in life, and obtained the rank of a major in the militia of his native district. He had begun to cultivate the sciences with success, when the unhappy contest between the mother country and her American colonies, in which he espoused the cause of the former, drove him from his native land. His local knowledge, and extensive information, gained him the acquaintance and respect of the British generals in America, which, however, he soon quitted, and repaired to England. Here he was consulted on the state and probable issue of the war; and Lord George Germaine, who then pre-

sided over the American department, conceived such a friendship for Mr. Thompson, that he gave him an honourable post in his office, and a general invitation to his table. When the war was drawing towards a close, and it was evident that the American department must be annihilated together with the British dominion in America, the same nobleman, with a view to make some provision for his friend, sent him over to New York, where he raised a regiment of dragoons, obtained the provincial rank of lieutenant-colonel, and became entitled to half-pay. Soon after his return to England, in 1784, his majesty was pleased to confer on him the honour of knighthood.

In the same year Sir Benjamin Thompson made a tour upon the continent, and at Strasburg became acquainted with the present king of Bavaria, then prince of Deuxponts, who so warmly recommended him to his relative and predecessor, the then reigning Elector Palatine and Duke of Bavaria, that the latter invited him into his service, with an offer of the most honourable terms. Having obtained his majesty's permission, he repaired to Münich, and was employed by his electoral highness in effecting the most salutary reforms of the various departments of his government. He arranged the military affairs, and introduced a new system of order, discipline, and economy, among the troops; constantly endeavouring in all his operations to unite the interest of the soldier with that of civil society, and to render the military force, even in time of peace, subservient to the public good.

The next object to which he directed his attention was the suppression of mendicity. Not only the capital, but the whole country, swarmed with beggars, who levied contributions on the industrious inhabitants,—stealing, robbing, and leading a life of indolence and the most shameless debauchery. Mendicity was actually formed into a trade, and the many thousands who subsisted by it seemed to consider their profession, like others, entitled to peculiar rights and privileges. To such a pitch was this notion carried, that no house, no church, was free from their annoyance; and either the magistrates would

not or durst not interfere with them; while the military, from a mistaken principle of delicacy, would have deemed themselves dishonoured by seizing the individuals, and putting a stop to the growing evil. Sir Benjamin, who had by this time been decorated by the sovereign with the insignia of various orders, promoted to the rank of lieutenant-general, and been created Count of Rumford, after the place of his nativity, determined to apply a remedy to so intolerable a nuisance. Having prepared a building for the reception of the mendicants, and materials for their employment, he fixed upon the 1st of January, 1790, (new year's day having been peculiarly set apart for giving alms in Bavaria,) as the most favourable for the commencement of his operations. Accompanied by the field-officers of the regiments in garrison at Münich, and the chief magistrates of the city, to whom he had previously communicated his plan, he sallied forth into the streets, and, to prevent the possibility of disgrace being attached to so salutary a measure, he began by arresting the first beggar he met with his own hand. No sooner had the commander set the example, than the officers and soldiers, without making any difficulty, cleared the streets with equal promptitude and success, but at the same time with all imaginable good nature, so that before night not a single beggar was to be seen in the whole metropolis. As fast as they were arrested, they were conducted to the town-hall, where their names were inscribed, and they were then dismissed with directions to repair the next day to the new work-house provided for them, where they would find employment and a sufficiency of wholesome food. By persevering in this plan, and by the establishment of the most excellent practical regulations, the Count so far overcame prejudice, habit, and attachment, that these heretofore miserable objects began to cherish the idea of independence—to feel a pride in obtaining an honest livelihood —to prefer industry to idleness, and decency to filth, rags, and the squalid wretchedness attendant on beggary. In order to attain these important objects, he introduced new manu-

factures into the electoral dominions; and having, during a journey in Italy for the recovery of his health, made himself acquainted with the establishments for the relief of the indigent in some parts of that country, he entertained hopes of enabling the poor of Bavaria to live comfortably by the manufacture of clothing for the poor of Italy.

The change wrought in the hearts and sentiments of those whose external situation the Count had undertaken to improve, could not fail to afford the highest gratification to a mind like his. Every reader of the least sensibility must envy him the emotions which, while he is describing these improvements, suggested passages such as the following:—"When these poor creatures were first brought together, I used very frequently to visit them—to speak kindly to them—and to encourage them; and I seldom passed through the halls where they were at work without being a witness to the most moving scenes. Objects formerly the most miserable and wretched, whom I had seen for years as beggars in the streets; young women, perhaps the unhappy victims of seduction, who, having lost their reputation, and been turned adrift in the world, without a friend and without a home, were reduced to the necessity of begging, to sustain a miserable existence, now recognized me as their benefactor, and with tears dropping fast from their cheeks, continued their work in the most expressive silence. If they were asked what was the matter with them, their answer was, "nothing;" accompanied by a look of affectionate regard, so exquisitely touching, as frequently to draw tears from the most insensible of the by-standers.

"As examples of success are sometimes more efficacious in stimulating mankind to action than the most splendid reasonings and admonitions, it is upon my success in the enterprise, that my hopes of engaging others to follow such an example, are chiefly founded; and hence it is, that I insist, with so much perseverance, on the pleasure which this success afforded me. I am aware that I expose myself to being suspected of ostentation, particularly by those who are not able

to enter fully into my situation and feelings; but why should I not mention the marks of affectionate regard and respect which I received from the poor people, for whose happiness I interested myself; and the testimonies of the public esteem with which I was honoured? Will it be reckoned vanity if I mention the concern which the poor of Münich expressed in so affecting a manner when I was dangerously ill?—that they went publicly in a body in procession to the cathedral church, where they heard divine service performed, and put up public prayers for my recovery?—that four years afterwards, on hearing that I was again dangerously ill at Naples, they of their own accord set apart an hour each evening after they had finished work to pray for me? Will it be thought improper to mention the affecting reception I met with from them on my first visit to the work-house on my return to Münich after an absence of fifteen months; a scene which drew tears from all who were present?—and must I refuse myself the satisfaction of describing the fête I gave them in return in the English garden, at which 1800 poor people of all ages, and above 30,000 of the inhabitants of Münich assisted?—and all this pleasure I must forego, merely that I may not be thought vain and ostentatious?—Be it so then; but I would just beg leave to call the reader's attention to my feelings on the occasion, and then let him ask himself, if any earthly reward can possibly be supposed greater, any enjoyments more complete, than those I received. Let him figure to himself, if he can, my situation, sick in bed, worn out by intense application, and dying, as every body thought, a martyr in the cause to which I had devoted myself:—let him imagine, I say, my feelings, upon hearing the confused noise of the prayers of a multitude of people who were passing by in the streets, upon being told that it was the poor of Münich, many hundreds in number, who were going in procession to the church to put up public prayers for me—for a private person, a stranger, a Protestant! I believe it is the first instance of the kind that ever happened; and I dare venture to affirm, that no proof could be stronger than this, that the measures adopt-

ed for making these poor people happy were really successful."

Among the other advantages reaped by Bavaria from the Count's residence there, that of the cultivation and actual use of potatoes as an edible, will appear not a little extraordinary. It is, however, not the less true, that it was he who first overcame the prejudices of the people of that country against this root; that he enriched their agriculture, and enlarged their stock of provisions by its introduction. Invariably directing his attention to objects of general utility to his fellow-creatures, the Count also undertook a variety of experiments, with a view to the economy of food and fuel, the result of which were the soups and improved fire-places so well known by his name.

After paying a visit to England in 1795 and 1796, the Count finally quitted Bavaria, and returned to this country in 1799. He was some years incessantly engaged in prosecuting his experiments on the construction of chimneys and the means of increasing the quantity of heat, which is tantamount to decreasing the consumption of fuel. After his improvements on fire-places had been adopted in the mansions of many distinguished individuals, he turned his attention towards the public establishments, and he had in a short time the satisfaction to know that there was scarcely a gentleman's house in England which was not better and more confortably warmed by his new method. Scotland and Ireland soon followed the example, and the Count repaired to the capitals of both these portions of the empire, with a view to give effect to his beneficial schemes.

To his hints also the country was indebted for the establishment of numerous soup societies; which, during periods of scarcity, have contributed materially to alleviate the wants of the poor, not only in the metropolis, but throughout the whole kingdom.

If, however, the attention of Count Rumford was chiefly directed to the bodily comforts of his fellow-creatures, he was

by no means unmindful of literature and the sciences. On the 12th of July, 1796, he transferred to the Royal Society of London, of which he was vice-president, and to whose Transactions he was upwards of 25 years a distinguished contributor, 1,000*l.* stock in the 3 per cent consols, with a view that the interest be applied every two years as a premium to the author of the most important discovery or useful improvement which shall be made known to the public in any part of Europe, during the preceding two years, on heat or light; the preference to be always given to such discoveries as shall in the opinion of the president and council tend most to the benefit of mankind. To his active exertions also must be chiefly ascribed the foundation of the Royal Institution, the model and parent of several other establishments of a similar nature, though on a less extensive scale, subsequently formed in the British metropolis.

The latter years of the life of this useful man and disinterested philanthropist were spent in France, in the cultivation of his favourite sciences, till death put a period to his labours, on Sunday, Aug. 21, 1814, at his country-seat at Auteuil, near Paris.

The literary productions of Count Rumford have obtained a wide circulation, having been translated into various languages, and are consequently well known. His papers in the Philosophical Transactions, chiefly on matters connected with the object of his beneficent investigations, were rather distinguished for the useful application of which they were susceptible, than for their number. His only distinct publication was a series of detached essays which appeared at different times since the year 1796, and now amount to eighteen, forming four octavo volumes. Such of our readers as may not possess this work, which comprises a vast mass of practical information, will not be displeased to find a sketch of its contents subjoined:—

Essay 1. Account of an establishment for the Poor at Münich, together with a Detail of various Public Measures con-

nected with that institution, which have been adopted and carried into effect, for putting an end to Mendicity, and introducing Order and useful Industry among the more indigent of the Inhabitants of Bavaria.

2. Of the Fundamental Principles on which General Establishments for the Relief of the Poor may be formed in all Countries.

3. Of Food, and particularly of Feeding the Poor.

4. Of Chimney Fire-places, with Proposals for improving them to save Fuel; to render Dwelling-houses more comfortable and salubrious; and effectually to prevent Chimneys from smoking.

5. A Short Account of several Public Institutions lately formed in Bavaria.

6. On the Management of Fire, and the Economy of Fuel.

7. Of the Propagation of Heat in Fluids.

8. Of the Propagation of Heat in Various Substances, being an Account of a number of New Experiments made with a View to the Investigation of the Causes of the Warmth of Natural and Artificial Clothing. (First published in the *Phil. Transactions.*)

9. An Experimental Inquiry concerning the Source of the Heat which is excited by Friction.

10. On the Construction of Kitchen Fire-places, and Kitchen Utensils, together with Remarks and Observations relating to the various Processes of Cookery, and Proposals for improving that most useful Art.

11. Supplementary Observations concerning Chimney Fire-places.

12. Observations concerning the Salubrity of Warm Rooms in Cold Weather.

13. Observations concerning the Salubrity of Warm Bathing, and the Principles on which Warm Baths should be constructed.

14. Supplementary Observations relating to the Management of Fires in Closed Fire-places.

15. Of the Use of Steam as a Vehicle for Transporting Heat from one Place to another.

16. Of the Management of Light in Illuminations; together with an Account of a new Portable Lamp.

17. An Inquiry concerning the Source of the Light which is manifested in the Combustion of Inflammable Bodies.

18. Of the Excellent Qualities of Coffee, and the Art of making it in perfection.

The title-page to these Essays describes the author as Knight of the Orders of the White Eagle and St. Stanislaus, Chamberlain, Privy Counsellor of State, and Lieutenant-General in the Service of his Most Serene Highness the Elector Palatine, Reigning Duke of Bavaria; Colonel of his Regiment of Artillery, and Commander-in-Chief of the General Staff of his Army; F. R. S. Acad. R. Hiber. Berol. Elec. Boic. Palat. et Amer. Soc.

The Count lost his wife before he quitted America. He has left one daughter, the issue of that union.

A French paper, the *Journal des Debats*, in announcing his death, paid the following just tribute to his merits:—"The natural philosophers of every country must admire his ingenious experiments on heat, light, combustion, steam, and numberless other subjects, respecting which he has greatly extended the limits of our knowledge. But what will shed superior lustre on his name, and render it dear to all the friends of humanity, are his investigations on the subject of the poor, mendicity, and political economy. The soups named after him will ever be a benefit to the indigent classes. How many persons have been relieved by them from the horrors of want? Who is ignorant of his numerous improvements in fire-places, boilers, and heating by steam? Who has not heard of his houses of industry, workhouses, and of the Royal Institution of London? Few men have ever had so just a claim to the regret of the learned bodies who did honour to themselves by numbering him among their members; of the poor, whose condition he ameliorated; in a word, of all classes of society, who will derive benefit from his useful labours."

Biographical Sketch of Dr. Boylston.

[From the Analectic Magazine, for July, 1815.]

It is a legitimate ground of national exultation, that, while in other countries those new inventions and improvements which add to the comforts, or mitigate the ills, of life, commonly make their way slowly against the opposition of prejudice and individual interest; here they are scarcely known before they become universal. Among hundreds of instances of various kinds which might be given, we need only to mention steam navigation, the practice of vaccination, the improvements of the criminal code, the penitentiary system, and the modern practice in cases of insanity. It is remarkable that this has always been, in some degree, a national characteristic; and one of the most curious facts of our colonial history is, that the practice of inoculation, for the small pox, was introduced into common use in this country from the east, at a time when in Europe, and especially in England, it was confined to very narrow limits, and generally viewed with suspicious dislike. Though the history of this invention is familiar to the antiquarians of Massachusetts, yet, as it is much less generally known elsewhere than it deserves to be, I have drawn up from various sources* a sketch of the life of Zabdiel Boylston, that liberal and enlightened physician, to whose zeal and courage in the cause of humanity, our country is chiefly indebted for this early introduction of the practice of small pox inoculation.

Zabdiel Boylston was born at Brookline, Massachusetts, in 1684. He never enjoyed the advantages of a learned education; but, after acquiring a considerable stock of miscellaneous knowledge from private instruction, studied medicine under

* Mass. Historical Collections, Holmes' Annals, Elliott's Dict. Allen's Biograph. Dict.

the care of Dr. Butler, a respectable physician and surgeon of Boston. In a few years he acquired the reputation of great skill in his profession, rose into extensive practice, and accumulated a fortune very considerable for those times. In 1721, when the small pox desolated the town of Boston, and filled the whole country with alarm and terror, Dr. Cotton Mather, a man of extensive knowledge and general curiosity, pointed out to the physicians of Boston, an account of the practice of inoculation for small pox, as used in the east, contained in a volume of the transactions of the royal society. This communication was received with great contempt by the whole of the faculty, who had probably come to the resolution of the physicians in Moliere, always to follow the ancient practice, whether good or bad; essere in omnibus consultationibus ancienni advisi aut boni aut mauvaisi; with the single exception of Dr. Boylston. Although this practice was unexampled in America, and not known to have been introduced in Europe, he immediately inoculated his own son, a child of six years of age, and two servants. Encouraged by the success of this experiment, he began to extend his practice. This innovation was received with a universal clamour of invective and opposition. The physicians of the town gave their unanimous opinion against it, and the selectmen of Boston passed an ordinance to prohibit it. A Scotch physician, Dr. Douglass, a man of narrow mind and malignant passions, particularly distinguished himself by his abuse of Dr. Boylston, whom he denounced as a bold, ignorant, and most dangerous quack. But, supported by a strong conviction of the great utility of this invention, and the firm support of several liberal and intelligent clergymen, he persevered; and in the course of the years 1721 and 1722, inoculated with his own hand 247 persons; thirty-nine more were inoculated by others, and of the whole number, (286,) only six died. During the same period, of 5759, who had the small pox the natural way, 844, nearly one seventh, died. Still, however, Douglass and his partisans continued to inflame the public against their benefactor by viru-

lent publications and furious declamation. They argued that his practice was nothing more than wilfully spreading contagion, a crime equivalent to that of poisoning—that as the disease was a judgment from God upon the sins of the people, all attempts to avert it would but provoke him the more; and, forgetting that the argument would extend to any exercise of their own profession, they even contended, that as there was a time appointed unto every man for death, it was impious to attempt to stay or to avert the stroke. Religious bigotry, being thus called into action, in addition to the feelings of personal malignity, so exasperated many of the ignorant against Dr. Boylston, that attempts were threatened against his life, and it became unsafe for him to leave his house after dusk. Time and experience at length came in to the aid of truth, opposition died away, and at last the rancorous Douglass reluctantly declared himself a convert to the new practice, without, however, having the magnanimity to confess the merit of Dr. Boylston. Boylston had the satisfaction of seeing inoculation in general use in New-England for some time before it became common in Great Britain.

In 1725, he visited England, where he was received with the most marked attention from the learned and scientific of the metropolis. He was elected a fellow of the royal society, and contracted an acquaintance and friendship with many distinguished men, particularly with the pious and learned Dr. Watts, with whom he corresponded during the remainder of his life. Upon his return he continued at the head of his profession for many years; he yet found time for literary and philosophical pursuits, and contributed several valuable papers to the transactions of the royal society. He died March 1st, 1766.

His only publications, beside his communications to the royal society, are "Some account of what is said of inoculating or transplanting the small pox, by the learned Dr. Emanuel Timonius and Jac. Pylarinus," a pamphlet, Boston, 1721, and "An historical account of the small pox, inoculated in New-England," &c. London, 1726.

Dr. Jackson's Eulogy on Dr. Warren.

Dr. J. Jackson, of Boston, has published *A Eulogy* which he lately delivered on the character of John Warren, M. D. President of the Massachusetts Medical Society. It is neatly and perspicuously written; the praise is high, yet always discriminating, and there is none of that vague exaggeration which so frequently disgusts us in compositions of this class.

The following is a summary of the principal facts which he relates.

Dr. John Warren was the son of a respectable farmer in Roxbury, Mass. He was born July 27th, 1753, entered Harvard College in 1767, where he was graduated A. B. in 1771. He passed two years (at that time the customary period) in the study of medicine, with his brother, Dr. Joseph Warren, a man then eminent for his skill in medicine, but now remembered as the patriot and soldier. In 1773, he commenced the practice of his profession in Salem, where he soon gained reputation and extensive employment. With his patriotic brother, he warmly espoused the cause of liberty; and on the day following the battle of Bunker Hill, resolved to enter into the service of his country. Guided on his way by the blaze of Charlestown, he repaired with his arms and knapsack to headquarters, at Cambridge. On the road he met the tidings of his brother's death, but in the universal confusion which prevailed, it was impossible to ascertain for several days whether the report was true.

The state of torture he endured during this anxious interval, was, in the words of his own private diary, "such as none who have not felt, can form any conception of." In the warmth of his zeal he had resolved to enter the ranks as a private, but his professional merit was known, and he was immediately appointed hospital surgeon; in this capacity he accompanied the army for two years, was in the campaign on Long-Island,

and in the battles of Trenton and Princeton. In 1777 he was appointed superintending surgeon of the military hospitals at Boston, and continued in this station until 1783, uniting private practice with his public duties.

In 1780 he began a course of private lectures on anatomy, which was the first ever formally delivered in New-England.

Several bequests for the foundation of medical professorships in Harvard College, had been made, and at the close of the war, Dr. Warren, at the request of the corporation, formed a plan of a medical school, which was adopted, and he was appointed to the chair of anatomy. He was probably more self-taught than any man who had taken such an office within the two last centuries, never having had the benefit of personal instruction from any scientific professor. But every difficulty vanished before his zeal, industry, and talents; he delivered his lectures for twenty-six years without interruption or assistance, until 1809, when his son was associated with him. In the meanwhile his practice in Boston became very extensive and lucrative, and he twice proffered the resignation of his professorship, but was dissuaded from his purpose by President Willard. In the hurry of business, he yet found or made time for social and public duties, and even for literary labour. He was not ostentatious in his publications; but his Essay on the Mercurial Practice is pronounced worthy of high estimation among philosophers and practising physicians.

For more than thirty years he was continually, and unremittingly, employed in his professional and public labours. "Probably no man in America," says Dr. Jackson, "has gone through so much business, I will not say in the same time, but even in the longest life." He died after a short illness, in April, 1815.

In private life he was singularly estimable and exemplary.

The most striking feature of his intellectual character was the great and apparently intuitive rapidity of all his mental operations. He was skilled in all branches of medicine, but especially eminent in surgery. His rare eloquence as a lec-

turer will not soon be forgotten; his voice was harmonious; his utterance distinct; his delivery full of animation; his language perspicuous and choice—above all, he was warmly interested in his subject, and anxiously solicitous to interest and inform his hearers.—*Analectic Magazine.*

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

VAUQUELIN has published some observations on the method of precipitating copper from its solutions by iron or zinc. For this purpose, zinc answers better than iron. Unless the zinc be allowed to remain a sufficiently long time in the solution, the whole of the copper is not precipitated; and unless there be an excess of acid in the liquid, a portion of copper is precipitated in the state of oxyd. A portion of the zinc always falls in combination with the copper; therefore the copper, after the liquid is separated, ought always to be digested in dilute muriatic acid, which takes up the zinc without touching the copper.—*New Monthly Mag.*

Gay Lussac has finished a very laborious and complete investigation of the properties of iodine. During his experiments he discovered that chlorine possesses the property of combining in two proportions with oxygen, and of forming two acids which he calls the *chloric and chlorous* acids. Davy's euchlorine is Gay Lussac's chlorous acid, but the chloric appears to be the more curious and important compound. We are not yet informed how it is obtained.—*Ib.*

M. Chevreul, Assistant Naturalist to the Museum of Natural History of Paris, has made some new observations on the change which any fatty matter undergoes by its combination with alkali to form soap. The soap of potash and hog's

lard dissolved in water leaves a pearl-coloured substance, which, when separated from the saline matter that it still contains, constitutes a substance possessing very peculiar properties, which, from its pearl colour, M. Chevreul denominates *margarine*. It is insoluble in cold, but easily resolved in hot water. It melts at 133°; and, on cooling, crystallizes in beautiful white needles. It combines with potash, and then resumes the characters of the pearl-coloured deposit. It has a stronger affinity for that base than carbonic acid, which it expels from the carbonate of potash by the assistance of a boiling heat. It likewise separates potash from turnsole, and restores it to its red colour.—*Ib.*

M. Hildebrandt has recently made some curious experiments on the preservation of flesh in the gases. Into a receiver of the capacity of three cubic inches, filled with very pure sulphurous acid gas, he introduced, through mercury, a piece of fresh beef: in a few minutes it had absorbed all the gas, and the mercury filled the capacity of the receiver, except some air-bubbles, probably owing to the atmospheric air. The flesh soon lost its natural red colour, and assumed that of boiled meat: it underwent no other apparent alteration, and the air in the bell-glass preserved its volume. At the end of 76 days, during which time the temperature had varied from 0 to 10° Reaumur, the beef had acquired scarcely any smell of sulphurous acid, and was harder and drier than roasted meat. After being left four days in the open air, it became more compact without being putrefied, and did not change colour: it merely lost the weak smell of acid, without acquiring any other. A piece of ox beef was treated in the same way in the fluoric acid gas, and the results were in every respect similar: the phenomena were only less visible, because the acid attacked the glass, and a thin coating of mercury was deposited on the flesh. Beef deposited in a receiver filled with ammoniacal gas exhibited very different alterations: a total absorption of the elastic fluid had taken place; the meat assumed a fine red

colour, nearly resembling the effect of nitrous gas, and retained this fresh appearance 76 days: it was much softer than in the foregoing experiment, without smell, and having the colour and consistence of fresh meat. When exposed four days to the open air, it did not putrify, but lost its red colour, became brown, dry, and covered with a kind of varnish.—*Ib.*

A shower of meteoric stones having fallen near Toulouse, on the first of April, 1812, M. d'Abuisson, chief engineer of mines, and a deputation of scientific men, were dispatched by the French Imperial Government, to inquire into the particulars; and having proceeded to Grenade, seven leagues N. N. W. from Toulouse, where the phenomenon took place, the following is the substance of their report: About eight o'clock in the evening a brilliant light was seen in the atmosphere at Toulouse, and for several leagues around; this was followed by a very loud noise. It was thought at first that the powder magazine of Toulouse had been blown up, and, when it was discovered that it was unfounded, the light and noise was ascribed to some extraordinary meteor,—for the state of the atmosphere and the force of the explosion did not admit of the idea of its being a simple clap of thunder. A few days afterwards it was discovered that this phenomenon had been accompanied with a shower of stones, two leagues W. N. W. of Grenade. The light which spread over the atmosphere appeared all at once; although the sun had set for an hour and a half, and the air was dark, the light was so brilliant that the mayor of Grenade could read the smallest characters in the streets of the town; and the mayor of Camville compared it to the light of the sun, adding, that the town clock was as visible as at noon day, and that a pin might have been picked up in the streets. The exact duration of this light was not remarked. Some persons estimated it at two minutes, others at one, and others still less; but the fact is, that the light was continuous, and not instantaneous, like that of lightning. The sky around being dark, the body which produced the light

could not be seen. Scarcely had it disappeared, in the place where the aerolites fell, when there was heard in the air, three strong detonations, similar to the report of large pieces of cannon: they succeeded each other rapidly, and almost without any interval. Their noise was such that they were heard at Castres, twenty leagues from the spot where the stones fell. They were distinguished from each other in the neighbourhood of this spot alone. Some persons stated that they were equal in point of noise; others said that their intensity gradually diminished. They were followed by a very loud noise, which some compared to that of several heavy carriages rolling at once upon the pavement; others compared it to the beating of several drums, and others to a strong fire of musketry from the Spaniards having invaded the country. The noise came from the N. E. and proceeded to the S. E. and, after it subsided, a sharp hissing was heard, which ended in considerable shocks, similar to grape shot striking the ground: these phenomena were produced by the fall of the aerolites. Not more than fifty of these stones have been picked up. They are from three to eight ounces in weight, and one only weighed two pounds. They consist of a homogeneous paste of a stony nature, containing a very great quantity of small particles of iron in the metallic state, and very malleable. They do not affect any particular form. The quantity of the aerolites which actually fell must not be inferred from the small number which was collected. It was night when they fell, and most of the inhabitants were in bed: the ground on which they fell was partly in grass and partly ploughed up: into the latter many were no doubt sunk; so that it is more than possible that a much more considerable quantity fell than what is mentioned above: in short, all that were collected fell close to the houses, and of course were easily discovered. The whole that fell therefore may fairly be estimated at upwards of 100, nay, perhaps 1000.—*Monthly Mag.*

A small pamphlet has recently been printed for the use of the governors of the New-York Hospital, intitled *Hints for introducing an improved mode of treating the Insane*, by Thomas Eddy. It contains many sensible and useful remarks on the moral management of the insane, and insists strongly on the superior efficacy of mild and gentle treatment. The substance of this tract is drawn from Tuke's *Account of the Retreat*, an admirable lunatic asylum near York, in England, under the superintendance of the society of Friends; into which neither chains nor corporeal punishments are ever admitted—in which every appearance is avoided which can suggest painful ideas to the patient, and where the whole system of control is founded on the principle, "that whatever tends to promote the happiness of the patient increases his desire and power of self-restraint." With the exception of this establishment, we believe there is no English hospital for the insane, public or private, to be compared, in this respect, with the asylums attached to the hospitals of Philadelphia and New-York. At least, if we can trust to the report of the committee who examined the London hospitals and private mad-houses during the last year, those institutions are essentially bad, in their whole system; a system of terror, torture, chains, and close, gloomy confinement.

Mr. Eddy concludes by suggesting a plan of connecting with the present asylum in the city of New-York a rural retreat, provided with walks, gardens, and other conveniences, for rural labour and amusement.

There is one improvement adopted in the York retreat, and mentioned in Tuke's account of it, which Mr. Eddy might have noticed; trifling as it may appear, we have no doubt of its effect being very considerable. We mean the substituting painted iron window sashes, of proper dimensions, for the grated windows, and thus removing, as much as possible, the idea of restraint and confinement.—*Analectic Mag.*

During the last summer we announced to our readers, that Dr. Mitchill was employed in examining the natural history of the fishes of the coast, rivers, and lakes of the state of New-York. Since that period this learned, zealous, and indefatigable inquirer, has pursued the study of Ichthyology with great perseverance and success, and has examined, described, delineated, and classed, many species altogether unknown to the European naturalist. He has lately laid this curious body of information before the Literary and Philosophical Society of New-York, and it will soon be presented to the world, in the first volume of their transactions. This elaborate paper is now in the press; it fills about 100 quarto pages, and will be accompanied by a number of quarto plates of many fishes of our waters, which have never been before described; all of them accurately, and some of them elegantly, drawn by Drs. Mott, Inderwick, and Akerly, and engraved by Anderson, an artist who has already distinguished himself by his taste and skill in natural history. Beside making this important addition to the stores of natural knowledge contained in our own language, Dr. Mitchill has made arrangements for communicating information on the Ichthyology and the fisheries of the United States, to the naturalists and politicians of the continent of Europe. M. Noel De La Moriniere, a distinguished naturalist of Paris, has been for some years employed, under the patronage of the French government, in preparing a magnificent publication, on the natural, economical, and commercial history of the useful fish, to be comprised in six vols. 4to. with splendid engravings. Having finished the European part of his work, he addressed a letter to the Baron L'Escallier, consul at New-York, a man of science, and a member of the National Institute, requesting information on the fisheries and fish of the United States. In consequence of this request, Dr. Mitchill has transmitted to M. Moriniere a great mass of important information on this subject.

Analectic Magazine.

Remedy for Weak Eyes.

Placing a piece of green glass on the book, instead of wearing green spectacles, has been recommended in a London Magazine, for those who are affected with weakness of the eyes.

College of Physicians of Philadelphia.

JULY 4, 1815.

The following officers of the College, were this day duly elected, pursuant to their Charter.

President.
Doctor Adam Kuhn.

Vice President.
Doctor Thomas Parke.

Censors.
Doctor Caspar Wistar,
William Currie,
Samuel P. Griffitts,
Thomas T. Hewson.

Treasurer.
Doctor Thomas C. James.

Secretary.
Doctor Joseph Parrish.

PENNSYLVANIA HOSPITAL.

Patients admitted from April 23d, 1814, to April 22d, 1815,	544
Attended as out-patients,	1132
	1676

Of this number there were,	Cured,	1099
	Relieved,	104
	Removed,	36
	Irregular,	30
	Infants born,	19
	Eloped,	26
	Died,	184
	Remaining under care,	178
	Total,	1676

May, 1815.

The following contributors were elected Physicians, viz.

Physicians for the House.

Doctor Thomas Parke,
Philip Syng Physick,
Benjamin Smith Barton,
John Syng Dorsey,
Joseph Hartshorne,
John C. Otto.

For the Lying-in Department.

Thomas C. James.

For Out Patients.

Samuel Calhoun.

METEOROLOGICAL OBSERVATIONS.

State of the weather at Philadelphia during the first six months of 1815.

JANUARY.

Thermometer—Lowest, at 8 A. M. 10. 30th day of the month.
Highest, at 3 P. M. 46. 2d and 3d.
Mean, ... 30.

Winds—northerly and westerly—snow on the 13th, and heavy snow on the 22d. River frozen over on the 27th and continued closed to the 5th of March. On the 30th the mercury in some situations was at 3° below zero—at five o'clock, A. M. in the open air, it stood at 5° below zero and continued so until sunrise.

FEBRUARY.

Thermometer—Lowest, at 8 A. M. 15. 1st day of the month.
Highest, at 3 P. M. 40. 21st.
Mean, ... 30.

Winds—northerly and westerly—much clear weather—several snows.

MARCH.

Thermometer—Lowest, at 8 A. M. 29. 22d day of the month.
Highest, at 3 P. M. 60. 15th.
Mean, ... 40.

Winds—variable, chiefly westerly and southerly.

APRIL.

Thermometer—Lowest, at 8 A. M. 41. 1st day of the month.
Highest, at 3 P. M. 72. 18th and 27th.
Mean, ... 53.

Winds—westerly winds prevailed. Thunder and lightning on the 19th, early in the morning. The shad fishery not so productive as at some other seasons, although the fish were large. The spring was cool and backward.

MAY.

Thermometer—Lowest, at 8 A. M. 50. 1st, 2d, 3d, and 15th days of the month.
Highest, at 3 P. M. 78. 29th.
Mean, ... 60.

Winds—westerly for the most part. Rains frequent. Severe thunder on the night of the 2d inst. Snow six inches deep and sleighing at Plattsburgh, New-York, on the 20th. The waters of Lake Erie, of the rivers Ohio and Mississippi, have been very high this month.

JUNE.

Thermometer—Lowest, at 8 A. M. 62. 7th day of the month.
Highest, at 3 P. M. 89. 20th.
Mean, ... 70.

Winds—westerly winds prevalent—frequent rains—violent wind on the 20th P. M. with rain. Many accounts of the early appearance of ice islands in the Atlantic Ocean, in this and the last month. The newspapers from Halifax, Nova Scotia, mention, that owing to the coldness of the weather, planting had not commenced in many parts of that province; that considerable quantities of ice were formed in the harbour on the 1st instant. The Quebec papers also mention the backwardness of the season; that on the 4th of June, the trees were not in leaf, only the aspen and birch began to show a little verdure.

The season has been healthy. A few severe cases of typhus fever appeared during the first three months of the year. The measles have continued in a mild form in the present month. No small pox. Vaccination amongst the poor, has been practised to a greater extent than usual. Good prospects of harvest of every kind.

LIST OF RECENT BRITISH PUBLICATIONS.

Medicine, Surgery, &c.

Facts and Observations on Liver Complaints and Bilious Disorders in general, &c. &c by John Faithorn.

A Philosophical Dissertation on the Hereditary peculiarities of the Human Constitution, by Joseph Adams, M. D. F. L. S.

A Practical Treatise on Porrigo, or Scald Head and Impetigo, the Humid or Running Tetter, with coloured Engravings illustrative of the Diseases, by the late Robert Willan, M. D. F, R. S. edited by Ashby Smith, Member of the Royal College of Surgeons, 4to.

Cases of Tetanus and Rabies Contagiosa, or Canine Hydrophobia, with Remarks, chiefly intended to ascertain the characteristic Symptoms of the latter Disease in Man and certain Brutes, and to point out the most effectual means of prevention, by Caleb Hillier Parry, M. D. F. R. S. 8vo.

Observations on Adhesion, with two cases demonstrative of the powers of nature to reunite parts which have been by accident totally separated from the Animal System, by William Balfour, M. D. 8vo.

A Series of Engravings of Cutaneous Diseases, illustrative of all the principal Genera and Species described in the Practical Synopsis of the Classification of Dr. Willan, published by Dr. Bateman.

An Essay on the Diseases which have been confounded with Syphilis, and the Symptoms which exclusively arise from that poison; illustrated by drawings of the cutaneous eruptions of true syphilis and the resembling diseases, by Richard Carmichael, M. R. I. A.

A Treatise on Fever, with observations on the practice adopted for its Cure, in the Fever Hospital and House of

Recovery in Dublin, by William Stoker, M. D. one of the physicians to that institution, &c. &c. 8vo.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Volume V.

The Morbid Anatomy of the Brain in Mania and Hydrophobia; with the pathology of these two diseases, as collected from the papers of the late Andrew Marshall, M. D. With an account of some Experiments to ascertain whether the pericardium and ventricles of the Brain contain water in a state of Health; to which is prefixed a Sketch of his Life, by S. Sawrey, Fellow of the Royal College of Surgeons.

Surgical Observations on Injuries of the Head, by John Abernethy, F. R. S. &c. a new edit. 1 vol. 8vo.

A Treatise on the Puerperal Fever; illustrated by cases which occurred in Leeds and its neighbourhood in 1809—12, by William Hey, junr. Surgeon to the General Infirmary at Leeds.

Observations on the Diseases of Females which are attended by Discharges, illustrated by copperplates of the Diseases, by Charles Mansfield Clarke, Member of the Royal College of Surgeons, Lecturer on Midwifery, &c. &c.

Medical Transactions published by the College of Physicians in London. Vol. V.

The Morbid Anatomy of the Liver, being an Inquiry into the anatomical character, symptoms and treatment of certain diseases which impair or destroy the structure of that viscus. Part II. by J. R. Farre, M. D.

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